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Abstract

The author sought to evaluate the feasibility of developing a centralized instructional television (ITV) production facility for institutions of higher learning in the state of Utah. He considered economic factors, availability of qualified personnel, space and physical plant, potential to provide the required service, and the degree of acceptance of individual institutions. He surveyed seven Utah universities and colleges, investigated the use of ITV activities at Brigham Young University and Hill Air Force Base, collected information about the use of ITV in higher education in other states, and conducted a review of research on the use of television as a tool in the teaching-learning process. In checking his information against the criteria, he found that only the national outlook for qualified personnel and the degree of acceptance by individual institutions were unacceptable. The author feels that both these objections may be readily overcome: those who have used ITV are usually converted to its favor, and the recruitment of the few personnel necessary for a centralized facility in a metropolitan area would be easier than staffing many smaller facilities in rural areas. He concludes that a centralized ITV facility would be of great benefit to the state of Utah. A bibliography is appended. (JY)

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A STUDY OF THE FEASIBILITY OF A CENTRALIZED INSTRUCTIONAL TELEVISION PRODUCTION FACILITY FOR HIGHER EDUCATION INSTITUTIONS IN UTAH

A Thesis
Presented to the
Department of Communications
Brigham Young University

In Partial Fulfillment
of the Requirements for the Degree
Master of Arts

by
Thomas David Toyn
August 1969

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This thesis, by Thomas David Toyn, is accepted in its present form by the Department of Communications of Brigham Young University as satisfying the thesis requirement for the degree of Master of Arts.

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(Completion Date)

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CHAPTER I

INTRODUCTION

State Legislatures and State Departments of Education are faced with the problem of providing the most efficient and technically adequate educational system for the citizens of their state in the most economical and effective manner. Accomplishing this task is strongly effected by the following:

1. The population explosion and the increasing number of students. With this increase in students comes the accompanying problems--the shortage of teachers, classrooms, schools, colleges and teaching materials. One relief to this problem, if not the solution, lies not only in the training of more teachers and constructing more physical facilities but also in finding and implementing newer and more efficient teaching methods.

2. The rapidly expanding knowledge explosion. It has been said that knowledge is being developed so rapidly that what is being taught to college students is already outdated when taught. It is claimed that engineers graduating this year are already five years behind the state-of-the-art in the real world of industry. The new knowledge of science takes considerably long to be integrated into new texts and university curriculum.

3. The explosion of technology. The application of technology in business and industry is being reflected in nearly every aspect of the American way of life. This is especially true about the changes which have been brought about by the advancements in electronics and its effects on communications. The overall development of mass and educational media along with telecommunications has made a profound impact not only on our social structure but also on our economic structure. Satellites and space exploration, computers, television, radio, and data communications have moved from remote off-line daily happenings. Such advancements as the computer, integrated circuits, microminiaturization, and time-sharing

> computer access to information in the nanosecond time range, cry loud and long for education to discard the archaic traditional methods of instruction for the new educational technology including television applications, computer assisted instruction, remote information storage and retrieval, dial access, and remote television display systems, etc., etc., etc., ad infinitum.

The solutions to these challenges to education seems not only in increasing effort to provide well trained teachers and up-to-date curricula but also in determining and implementing newer and more efficient methods of teaching made possible by the new technology.

When responsible administrators review the financial budget required to support education in an attempt to justify increased appropriations from the legislature, an obvious question should arise: What consolidations can be made or what duplications can be eliminated and still provide the required service to all institutions? A certain amount of duplication and increased costs result from growth in the administration of education which has its share of the evils of Parkinson's Law which is not limited in application only to federal government administration. When individual universities and colleges begin competing for the larger share of the tax dollar without review by a centralized body having the interests of the whole state in mind, an excess of duplication and lack of direction can result.

Utah's Coordinating Council for Higher Education Master Plan, submitted to the Governor and Legislature at the end of 1968, pointed out many goals and actions which were needed to properly align Utah's higher education with the direction and centralized control so urgently needed.[1] The Coordinating Council pointed out that the primary mission of each institution in the state is teaching. If Utah is to meet the needs of the citizens of this state with quality education and avoid excessive costs, it says, ". . . central planning must be provided, institutional roles must be defined and institutional programs, present and proposed, must be subject to central authorization."[2] It is important that efforts be made to clarify roles and to coordinate services in order to satisfy real public needs with a minimum of duplication and cost.[3] Growing institutions naturally have duplications which are characteristic and implicit to their nature. But where limitations of funds restrict what can be provided throughout the state, decisions must be made by those controlling the purse strings to say just how much non-implicit duplication is permissible and in the best interest of the public at large. Since this state has both a low average income and a high percentage of high school graduates entering college, the central control of tax revenue to higher educational institutions becomes more necessary.

The Utah Master Plan for Higher Education recommended a governance with the power to negotiate important decisions and to assure proper consideration of the facts and probable effects of policy to help prevent: pro-liferation of institutions; expansion and duplication of curriculum, evolution of institutions toward upper division and graduate status; institutional competition for students; institutional competition for funds; and neglect of such services as vocational, technical and general education, research, continuing education and public services.[4]

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[1] Coordinating Council of Higher Education, Utah's Master Plan for Higher Education, A Working Document (Salt Lake City, Utah: 1968), p. 13-20.

[2] Ibid., p. 18.

[3] Ibid., p. 16.

As a result, (whether it was a direct result of the Master Plan or other considerations of the legislators is not known) the 1969 legislature established a central controlling body--a 15-member State Board of Higher Education--by enactment of Senate Bill 10, replacing all existing governing boards of the institutions except the State Board of Vocational Education for two technical colleges. The new Board also replaces the Coordinating Council of Higher Education and assumes the powers and responsibilities of the Council. Provision is made for appointment of a Commissioner of Higher Education to serve as the Board's chief executive officer. Each institution, except the two technical colleges, will have a nine-member institutional council, to which certain powers may be delegated by the Board. The new Board has the power to appoint institutional presidents, maintain an up-to-date master plan, prescribe standardized systems of accounts, prepare a combined appropriation request for the higher education system, assign institutional roles, approve any substantial alterations in the scope of institutional operations, conduct program reviews, approve degrees granted, and approve building programs.[5]

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[4] _Ibid._, p. 30.

With this major change for governance of higher education in the State of Utah, the foundation has been laid upon which change can be affected. Progress may be developed to provide better education with fewer unnecessary duplications and greater economy.

I. THE PROBLEM

Statement of the problem. The problem is to determine the feasibility of a centralized instructional television (ITV) production facility for higher education institutions in the State of Utah.

The following problems relating to effective use of educational television (ETV) and ITV in the colleges and universities of Utah were enumerated by the Coordinating Council Master Plan Study Committee M on Supporting Services:

1. What will be the continuing function of ETV Channels 7 and 11?
2. What kinds of TV production facilities are necessary to meet institutional needs?
3. What courses could be adapted for TV presentations?
4. What are the statewide problems of production and distribution?
5. Should there be central TV production facilities for all state institutions of higher education?

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[5] Utah Coordinating Council of Higher Education, Financing Higher Education in Utah 1969-70 (Salt Lake City, Utah: 1969), p. 16.

6. What form of training should be initiated to aid teachers in the proper utilization of TV in the classroom?
7. What can be done to reduce the problem of TV equipment compatability?
8. What must be done to keep all institutions abreast of new developments and facilities in the field of ETV and ITV?[6]

It is problem number five which stimulates the writer to venture into this study of the feasibility of a centralized instructional television production facility. However, there will be overlap into some of the other areas of question.

In order to provide ITV as an effective tool in the teaching-learning process, there are many things which require integration. A good functioning team would require qualified instructional designers, qualified production and teaching personnel, studio space, and television hardware. If each institution is to have adequate and complete state-of-the-art equipped ITV production complexes, the cost from public funds and delays in time required to provide a fully operating system become serious problems. This is probably one of the contributing factors which led the Study Committee to consider the possibility of central TV production facilities as one of the possible solutions to Utah's ITV problems for higher education. An investigation of the feasibility of this type approach will be made in this study.

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[6] Utah Coordinating Council of Higher Education, Master Plan Study Committee M Report: Supporting Services (Salt Lake City, Utah: July, 1968), p. 50.

II. SCOPE AND LIMITATIONS

Scope

Even though there are numerous other areas of media in use by education, this study will primarily be oriented to the area of instructional television (ITV) with such additional reference to educational television (ETV) and other instructional communications methods as seem appropriate in covering the subject. The development of hardware and software to make application of technology to education has been varied with considerable overlap from one medium to another. These developments will be mentioned during the course of this thesis but only for the purpose to enlarge or demonstrate the application of innovations to advancements in education. There will be no attempt to provide in-depth explanations of all educational media but they will be covered as required to establish appropriate background.

The intent of this investigation is to inquire into the use of ITV in the institutions of higher education, i.e., those offering degrees in the arts, sciences, and humanities. There is no intent to inquire into the use of ITV by the elementary, secondary, or post high school trade schools. Some reference will be made, however, to the use of the broadcasts made by ETV stations operated by the two universities of the state.

Limitations

The problem of identifying costs and financial records for ITV became a limiting factor to this investigation. Financial source documents of the Utah Coordinating Council for Higher Education and other institutions of higher education do not specify the costs for ITV. The only cost item for television listed in the Utah General Fund Appropriations for FY69-70 is the University of Utah ETV Station KUED ($210,000) and Utah State University ETV Station KUSU ($50,000). Other appropriations and federal grants generally lump or intermingle funds for ETV and ITV. Historical records on financial costs of ITV are virtually not available. Institutions with ETV stations have funds for ITV combined with general education appropriations. The salary levels for individual grades of instructors vary from institution to institution. Since ITV and CCTV costs depend largely on staffing costs, an average figure of all institutions would not be realistic. Costs and economy references will be primarily aimed at elimination of duplication of functions which contribute to increased costs for the state. Costs of both construction and equipment tend to vary upward with inflation and downward with the improved state-of-the-art of manufacturing television equipment. Therefore, references to costs in this study will be considered flexible and would require a more accurate study by separate investigation.

III. DEFINITIONS OF TERMS USED

Algorithm. This is an effective computational procedure.

Channel. The carrier of signals from the transmitter (encoder) to the receiver (decoder).

Communication. (1) The establishment of a mutual understanding between human nervous systems by the production of signs (meaningful, understandable messages--pictorial, symbolic or verbal). (2) The arousal of common meanings with their resulting reactions through the use of signs or symbols, whether pictorial or verbal (symbolic) and/or non-verbal communications.

Computer. A machine that changes its input information in some way to form output information.

Education. A generic term which describes the seeking of an improvement of motor skills, and intellectual development, and an emotional improvement of the individual, for an increase of his effectiveness within society. This will encompass the teaching-learning process.

Educational Media. The super-ordinate term for three sub-ordinate classifications, namely: instructional materials, instructional equipment, educational facilities, etc. It is a generic term for the entire spectrum of materials or learning resources, such as: printed and non-printed materials, electronic, optical, photographic and graphic.

Educational Television. (1) A general term for programs broadcast on either commercial or non-commercial television transmitting stations which inform, enrich, or present visual experiences. (2) A medium which disseminates programs devoted to information, instruction, cultural or public affairs, and entertainment.

Hardware. Equipment utilized for the display, transmittal, preparation, storage, playback and/or retrieval of information. It includes instructional equipment.

Heuristics. An aid or guide to discovery; the theory of step-by-step discovery.

Instructional Communications Center. An organizational structure dealing with communication theory, message design and production and instructional technology; also incorporates educational systems development.

Instructional Communications Specialist. A person who is trained in the application of message design, production, educational technology, and educational systems development.

Instructional Materials. The message or message container.

Instructional Media. Educational Media used in the instructional process.

Instructional Media Center. An organizational structure which handles the selection and evaluation, classification and cataloging, storage and housing, maintenance and repair, retrieval and distribution of all instructional media.

Instructional Media Specialist. A person trained in the application of instructional media to educational processes.

Instructional Media Technician. A person who has more specific qualifications on one of the areas--print, non-print, electronic, and may be represented by a cataloger, a television technician, a graphic communications artist, etc.

Instructional Technology. A systematic and logical application of the course content together with the hardware and systems design for packaging the message for use in the teaching-learning process. Involves analysis and long range planning, systems development, machines and automation.

Instructional Television. (ITV) Often used interchangeable with Educational Television (ETV). Implies structured, sequenced units usually for credit in in-class display. On occasion it may be available for individual or home display. ITV calls upon the instinct to work, build, learn, and improve, and asks the viewer to take on responsibilities in return for a later reward.

Media Specialist. A generic term which includes instructional media specialist, instructional communication specialist, audio-visual coordinator, ETV and ITV specialists, etc.

Medium. In the communication process the medium is a channel, a carrier of messages.

Public Television. The Carnegie Commission separated educational television into two parts: (1) instructional television, directed at students in the classroom or otherwise in the general context of formal education; and (2) what is called Public Television, which is directed at the general community.

Retrieval. The operation of recovery of energy or an object previously stored.

Software. (1) Instructional materials. The message or information that is developed to teach a specific educational concept. (2) The designed program for control of the operation of a computer. Usually written in a specific computer programming language.

Storing. An operation that changes the time location of an amount of energy or an object. Storing always occurs at a location in space.

System, Information Transmission. A system that takes in information, changes it, and delivers the resulting information at the output.

Systems. An operational system sythesizes and interrelates the components of a process within a conceptual framework, insuring a continuous, orderly and effective progress towards a stated goal.

Systems Approach. An integrated, programmed complex of instructional media, machinery, and personnel whose components are structured as a single unit with a schedule of time and sequential phasing.

Teaching. Guiding individuals and groups by providing learning experiences, enabling each learner to grow continuously and sequentially for his or her role in society.

Teaching-Learning Process. An instructional system through which learning experiences are structured, to bring about perception, conceptualization, and then application. Assessment is made through observation of behavior.

IV. PROCEDURES OF THE INVESTIGATION

The procedures used in completing this study followed the thesis method of systematic and logical problem solving. To test the feasibility of a centralized ITV production facility a criteria for evaluation was needed. It was decided that if some main critical factors which carry considerable weight in making a decision of approval or disapproval of a proposal were selected then the possible solutions could be tested against the criteria and the acceptance or rejection process would be simplified.

After evaluating many items, the following criteria were selected: (1) economic consideration, (2) availability of qualified personnel, (3) space and physical plant, (4) potential to provide the required service, and (5) degree of acceptability by individual institutions.

After establishing the criteria, it was decided that in addition to the review of the literature and research on ITV and ETV visits would be made to the State universities and colleges in Utah which have existing ITV production facilities. The Director of the staff of the Utah Coordinating Council of Higher Education, and the Supervisor of Media for the Utah State Department of Education, were interviewed. Visits were made to the campuses of three state supported institutions of higher education which have existing ITV production facilities, i.e., University of Utah, Utah State University, and Weber State College. Since facilities did not exist for producing ITV courses at the other colleges, on-campus visits were not made. However, contacts were made by telephone to discuss the problem with responsible persons on each campus.

A basis for comparison of ITV activities between institutions was needed to reflect the degree of use of ITV. The number of ITV _courses for credit_ being used on each campus was selected as a rather solid basis for comparative evaluation of the amount of ITV teaching which is being accomplished at each institution. In addition to obtaining a list of ITV courses for credit being used in Utah's colleges and universities, a survey was distributed to other states. This survey was intended to disclose a comparison with what other states were doing in the area of ITV in higher education.

After compiling the data and determining the alternatives, analysis and testing of the synthesized findings against the criteria resulted in the conclusions.

CHAPTER II

REVIEW OF THE LITERATURE

Much has been written about the value of television as a tool for teaching. The research from the late 1940's until the present has been extensive and accomplished by many noted scholars. By 1967 there were almost 350 research studies concerned with instructional television and film. Dr. Wilbur Schramm suggested to J. Christopher Reid and Donald W. MacLennan to undertake abstracting this experimental literature, which resulted in the document Research in Instructional Television and Film.[7] With an introduction by Dr. Leslie P. Greenhill, Director, University Division of Instructional Services, Pennsylvania State University, this summary of the research abstracts in the field of instructional television and film proves to be a major source document for research in television. At about the same time that Reid and MacLennan were compiling this book, Dr. Schramm collaborated with Godwin C. Chu in reviewing the research findings on instructional television and compiled Learning from Television: What the Research Says,[8] which contains six areas with 52 propositions about learning from television. The results of Chu and Schramm state:

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[7] J. Christopher Reid and Donald W. MacLennan, Research in Instructional Television and Film, U. S. Department of Health, Education, and Welfare, Grant No. GE-34041 (Washington: Government Printing Office, 1967), pp. 1-216.

[8] Godwin C. Chu and Wilbur Schramm, Learning From Television: What the Research Says, Institute for Communications Research, Stanford University (Washington: National Association of Educational Broadcasters, 1967), p. 116.

> It is concluded from overwhelming evidence that television can be an efficient tool of learning and teaching. When it is not efficient, the reason is usually in the way it is used. Evidence favors the integration of television into other basic requirements of good teaching, introduction of the medium so as to minimize resistance, and testing and revision of programs. Whether the television medium is to be preferred, and whether it is feasible for developing regions, depends on objectives and conditions.[9]

The research findings of the Denver-Stanford Project[10] point out interesting and significant things about the use of instructional television. After determining that children learn by television alone, Schramm asks a further question: "What combinations of related activities *with television* make for the most efficient learning?"[11] During this study he determined that an effective context could be built for television. ITV should be considered a resource along with other learning materials such as books, laboratories, tests, and other special learning experiences.[12] It is interesting to learn that ITV is not too complicated for even the inexperienced teacher to learn to manage efficiently[13], and that parents can effectively participate when the course is built around television.[14]

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[9] *Ibid.*, p. 116.

[10] Wilbur Schramm and Kenneth E. Oberholtzer, *The Context of Instructional Television--Summary Report of Research Findings*, The Denver-Stanford Project, Denver, Colorado and Stanford, California, June 1964.

[11] *Ibid.*, p. 1. [12] *Ibid.*, p. 51. [13] *Ibid.*, p. 152.

Another of the interesting findings of the Denver-Stanford Project was the apparent importance of the teacher. Schramm says:

> In fact, the whole study--which was expected by some to downgrade the classroom teacher in favor of television, programmed instruction, parent help, and so forth--actually made the classroom teacher seem more important than ever.[15]

After all these apparently significant findings, there were still more surprises. One of them gives much encouragement to the teacher of average intelligence and no outstanding talents other than interest in using television. The Denver-Stanford Project found this about teacher interest:

> . . . But the real surprise was the apparent importance of teacher interest. . . . [It showed that] if teacher interest is low, then even high preparation and experience will not make for very high levels of pupil performance. It is the combination of high interest and high prificiency that makes the difference. This is clearly what happened in the case of the laissez-faire teachers. Some of them did not score in the highest third of preparation and experience scale, but all of them were highly interested and challenged by their assignment. Their drive and enthusiasm were reflected in the kinds of opportunities they were able to provide to pupils and in their pupil's performance.[16]

Findings such as this should calm the apprehensions of those educators whose fear of the new, unknown, or strange medium for teaching results in their resistance to try. Here is another encouraging comment which should calm those fears:

> And one of the most important findings of the "tomorrow's classroom" experiment was that the classroom teacher

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[14] Ibid., p. 153. [15] Ibid., p. 158. [16] Ibid., p. 159

> could individualize the use and combination of methods and materials available to him, so as to fit them to wide variations in student interest and abilities. This is an essential part of providing an efficient "context" for instructional television. No one believes that we have found the best form of the team or the best context for all television. But we have found a very good team pattern, and a context that greatly multiplies the effectiveness of television teaching.[17]

Another Stanford Institute of Communications Research study looked into the future of educational television up to 1971. Dr. Martin J. Maloney, Professor of Speech and Broadcasting at Northwestern University, and Dr. Stanley T. Donner, Professor of Broadcasting and Director of the Annual Radio and Television Institute at Stanford University contributed an evaluation of television instruction and the personnel and training needs of the future.[18] These comments concerning the concepts of teaching and then their forecast of the needs of ETV in the future are interesting and bear on the present status of the problem:

> The first problem, obviously, is whether television can or should substitute for the classroom teacher or situation. If it could do so infalliably, the related problems of educational costs, supply of teaching personnel, and classroom space would be much eased.[19]

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[17] *Ibid.*, p. 160.

[18] Martin J. Maloney and Stanley T. Donner, "Personnel and Training Needs in ETV, 1961-1971," *Educational Television: The Next Ten Years*, Stanford Institute of Communications Research, Stanford, California, 1962, pp. 192-215.

[19] *Ibid.*, p. 199.

Even a casual review of education's history shows that the methods of teaching date from the pre-Gutenberg era. There is an assumption that the teacher is the source of education and the books and other information is only a supplement or visually aids to learning.[20]

Maloney and Donner attack this theory by saying:

> These assumptions have, with many, the force of natural law, both because of their antiquity and because they support the educational system as it presently exists. But what if we assume instead that learning may take place in other contexts, and that the teacher need not be the repository of information? Let us suggest instead the following: that learning may occur in the living room, or anywhere else, if information is provided through a book, an audio tape, a video tape, or a television broadcast; and that we do not necessarily need a trained teacher to convey such information effectively.[21]

Maloney and Donner observed that conventional teaching, like conventional ways of doing anything else, tend to persist as long as they produce the desired results. Sometimes they persist even "after they have ceased to produce the desired results."[22] They go on to say:

> On the one hand, the great problems which American educators must solve in this decade press for a change in educational methods and instruments; on the other, the innate conservatism of the system forces a continuation of old methods as long as they can be used at all.[23]

They did not believe there would be any great changes in education by 1971, but they thought that there would be slow changes with television gradually supplementing and extending where the old methods cannot reach.[24] They conclude their comments on teaching methods of the future with:

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[20] Ibid. [21] Ibid. [22] Ibid., p. 201. [23] Ibid.

> Our main task, then, is to look at the present and potential uses of ETV as a part of the formal educational system, from preschool to the university and its professional schools.[25]

It appears that the reference to ETV is meant to encompass the non-broadcast functions of ITV. At least the same idea extends through the whole spectrum of television as it applies to education.

Surely the time has past for full scale implementation of findings in the massive quantities of research on the effectiveness of ITV in the teaching learning process.

The review of the literature and research available did not disclose any research which was directed exactly on the problem of this thesis, i.e., that of determining the feasibility of centralized ITV production facilities for state institutions of higher education. However, the literature directs attention on the various uses of television. Dr. Schramm says that one of the most important findings is the affect of a television-centered course in raising the average competance of the teachers using it. It shows in the rapid rise in confidence among the teachers, in their seeking additional study and in service training, and in the reports of supervisors about increasing skill in classroom practice.[26]

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[24] Ibid. [25] Ibid.

[26] Wilbur Schramm et al., The Context of Instructional Television, Summary Report of Research Findings, The Denver-Stanford Project, Denver, Colorado and Stanford, California, 1964, p. 65.

The strange thing about this finding is that there exists a widespread resistance to the use of television by teachers. It would seem that teachers would jump at the opportunity to use television in their teaching if they realized that its use would contribute so much toward increasing their competance in the teaching profession. It reminds one of the wisdom of an athlete, such as a professional golfer, taking lessons to improve his game, from another "pro" who may have skills in teaching but not necessarily be a top money winner. It appears that desire or dedication coupled with interest in excelling in the task determines the degree of success. The Denver-Stanford Project reported the high interest of lesser qualified or prepared teachers who used ITV produced results superior to those teachers whose records showed them to be more qualified and experienced teachers but had low interest in ITV. The report said:

> Teacher interest, as well as teacher preparation and experience, is related *positively* to class performance. [My underlining] Most significant is the interaction of interest with preparation and experience. If a teacher's interest is not high, then raising the level of his preparation will not be strongly reflected in the performance of his pupils. Some of the poorest results came from classes where preparation was high and the interest low. . . . Pupil interest was not related significantly to teacher interest, although it came close to being significantly related to teacher preparation and experience.[27]

One of the recent collections of writings on television in training and education was compiled by Allen E. Koenig and Ruane B. Hill[28] in their book The Farther Vision: Educational Television Today in which Gary Gumpert says the following about ITV and CCTV:

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[27] *Ibid.*, pp. 65-66.

[28] Allen E. Koenig and Ruane B. Hill (ed.), *The Farther Vision* (Madison, Wisconsin: 1967), pp. 178-179.

> The future of closed-circuit television is dependent upon its integration, with other media, into the training and teaching structure of American education. This means coordination between the development of media technology (hardware) and the goals of the teaching-learning process through a systems design approach to education.

Instructional television cannot be left on the sidelines or used to augment the traditional lecture only incidentally and still utilize its full potential. The multimedia approach to education is rising over the horizon and will, in the future, cast its rays of light over the entire world of education.[29] But it cannot be accomplished by half-hearted attempts which result only in demonstrations. Meaningful instruction via television requires production which is both time consuming and difficult work.[30]

C. R. Carpenter and R. N. Willis state it well:

> The assumption is widespread that TV can be added to educational systems without markedly changing standard traditional requirements for funds, buildings, faculties, and personnel. In this connection a principle can be stated: When a new significant development is properly introduced into a system, its introduction significantly changes many or most of the other parts of the system.[31]

The progress of television technology has come a long way since the original demonstration of transmitting sight and sound. Just as the telephone has had its impact on the whole structure of our way of life, since the original demonstrations by Alexander Graham Bell, the common radio and television receivers have had their impact on the way of life of our mass society. Lawrence A. Hyland, Vice President and General Manager of Hughes Aircraft Company explained the impact of new public and private communications capabilities this way:

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[29] Ibid., p. 178. [30] Ibid.

[31] C. R. Carpenter and R. N. Willis, "Barriers to Use of ETV and ITV," NAEB Journal, XXIV (Nov.-Dec. 1956), p. 28.

> Although publicly-used television is perhaps only twenty-five years old, there are today in this country some 120 million television receivers, as against ninety million telephones. And, of course, the number of radio broadcast receivers is far greater than the count of television sets. This means then that the facilities for mass communications far outnumber those for individual communication.[32]

The development of both personal and mass communications capabilities have grown astoundingly. What if we ask the question: Has our ability to communicate understanding kept up with the growth of personal and mass communications technology? Mr. Hyland says, "Our technology has run away from the ability to communicate understanding."[33] If we ask the same question about education's ability to communicate understanding, what would be the answer?

Mr. Hyland concludes:

> We have what is called "Murphy's Law" which states that "In the absence of sure knowledge, any choice is bound to be wrong." Therefore, I submit that the time has arrived for the development of knowledge so that we may ultimately bring understanding to the peoples who are making use of the communications achievements now made possible.[34]

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[32] Lawrence A. Hyland, "The Future of Communications: A Commentary," Signal, XXII: 11 (July 1968), pp. 25-26.

[33] Ibid., p. 26. [34] Ibid., p. 28.

Considering the problem of centralizing instructional television facilities for higher education follows a determination of the future of television in the educational process. If the research is adequate to conclude that television will be a useful tool in the teaching-learning process and it is of such stability as to remain for some time in the future, then discussion of the problem raised by the Master Plan Study Committee M is valid. The Carnegie Commission's investigation into public television and the subsequent congressional action to establish the Public Broadcast Corporation has fairly well solidified the future of ETV and the broadcast aspect in public education.[35]

Speaking of the field of communication, the sharp increase in the use of the new media, and the need for integration into effective patterns of education, Dale and Trzebiatowski said this:

> It is clear that we shall make increased use of instructional television, computer assisted instruction, and varied forms of programmed instruction. We expect that what has been called public television (as contrasted with commercial television) will play a more dominant role in the education of the public as a whole.
>
> While we may not accept McLuhan's dictum that "the medium is the message," nevertheless, we realize that the medium and the message are closely interrelated. Further, we see that message systems relate to communication through reading and writing, speaking and listening, visualizing and observing. Hence we no longer think of audiovisual materials as an appendage to a curriculum--like frosting on the cake--but rather as integral and working parts of a carefully formulated program of planned

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[35] The Report and Recommendations of the Carnegie Commission on Educational Television, Public Television: A Program for Action (Harper and Row, Inc., Bantam Books, New York), 1967

education experiences.[36]

The question which remains is what will be the future of ITV? Concerning this question the Carnegie Commission said, "the role played in formal education by instructional television has been, on the whole, a small one, and that nothing which approached the true potential of instructional television has been realized in practice." The Commission continued by saying, "Instructional television has never been truly integrated into the educational process. . . . [I]t is not so much the deficiencies of instructional television that are laid bare, but the deficiencies of public education itself."[37] The Commission concluded its remarks about ITV with this statement:

> . . . Commission believes strongly that a television service which does not include a strong instructional component, along with commercial and Public Television, is totally inadequate to the American need and purpose.[38]

It appears that the future of ITV should be growing stronger.

The majority of ITV distribution to students on campuses of institutions of higher education using television credit courses is accomplished by closed circuit television systems (CCTV). Some additional comments about CCTV seems appropriate. CCTV can be more than a channeling device or a means of transmission. Since it is not bound by the restrictions of the Federal Communications Commission (FCC) as the broadcast stations are, CCTV may be used with more flexibility in discussing subject matter than it is possible with broadcast of open circuit broadcasts.[39] The multiple uses of CCTV is not limited to its application to instructional purposes. It can be used whenever video with or without sound is required to be transmitted from one location to one or more other locations. Security monitoring systems are now becoming common. So is remote viewing of special activities where seating limitations do not permit large enough audiences at the originating location. It seems as though the extent of CCTV use is only limited by the imagination and economic considerations in determining if the returns are worth the cost. However, when it comes to the use of CCTV in education, it will be necessary not only to integrate ITV into the teaching-learning process but also into the whole educational system. In Koenig and Hill's book, The Farther Vision, the systems design approach is considered very important, as here noted:[40]

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[36] Edgar Dale and Gregory Trzebiatowski, *A Basic Reverence Shelf on Audio-visual Instruction: A Series One Paper From ERIC at Stanford* (Stanford, California: Institute of Communication Research, 1968), p.3.

[37] Carnegie Commission Report, op. cit., pp. 80-82.

[38] *Ibid.*, p. 84.

> The future of closed-circuit television is dependent upon its integration, with other media, into the training and teaching structure of American education. This means coordination between the development of media technology (hardware) and the goals of the teaching-learning process through a systems design approach to education. . . . The production of effectively structured television lessons is both time-consuming and difficult. It

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[39] Gary Gumpert, "Closed-Circuit TV in Training and Education," The Farther Vision (Madison, Wisconsin: The University of Wisconsin Press), 1967, p. 158.

[40] Ibid.

> means the collaboration of television and teaching personnel. The development, production, and utilization of televised instructional material will, ideally, reflect and affect the entire teaching milieu. Half-hearted attempts may result in demonstrations, but not necessarily meaningful instruction.[41]

C. R. Carpenter and R. N. Willis touch on the same point:

> The assumption is widespread that TV can be added to educational systems without markedly changing standard traditional requirements for funds, buildings, facilities, and personnel. In this connection a principle can be stated: when a new significant development is properly introduced into a system, its introduction significantly changes many or most of the other parts of the system.[42]

Therefore, it is not only a requirement for teachers to integrate ITV into their classroom teaching process, but also a requirement for the entire educational systems to be changed through incorporating the subsystems of ITV into the overall system of education.

I. PERSONNEL

With regard to personnel forcasts about engineers and technical personnel, production personnel, and teacher-performers, conflicting evidence or predictions have been made. Maloney and Donner predicted that the source of supply and availability of technical personnel was pretty well set. They say that the problem is "one of sheer quantity."[43] One station manager said, "I can have my pick of directors and producers, but where do you find a good engineer?"[44] The forecast that "the need for engineers will increase out of proportion to the need of most other kinds of personnel," has been supported by experience.[45] The source of qualified broadcast engineers, video technicians, and audio technicians is the trade oriented schools. Cameramen normally can be trained with the operating and production crews in the colleges or universities which provide professional training in television. The other source for production personnel is commercial television which tends toward packaged or taped programs from the major networks rather than local production. This will tend to cause production personnel from commercial stations to migrate to public broadcasting and educational production facilities. ETV and ITV facilities will undoubtedly have greater growth than the commercial facilities which have generally reached a leveling off. The important thing is that before 1970 "it will be possible for a young man or woman to think of making a career of ETV."[46] It will also be possible for older persons desiring to retrain in the ETV or ITV area to get into this promising and growing field.

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[41] Ibid., p. 79.

[42] C. R. Carpenter and R. N. Willis, "Barriers to the Use of ETV and ITV," NAEB Journal, Vol. XXIV (November-December, 1965), p. 28.

[43] Ibid., p. 206.

In 1964 Vernon Bronson, Executive Consultant for NAEB, reported on a study of personnel in ETV in the United States under a contract with the U. S. Office of Education. The study checked the personnel of 2,000 educational institutions including 650 colleges and universities to determine the level of training of the personnel.[47]

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[44] Ibid. [45] Ibid. [46] Ibid., pp. 207-208.

Bronson said:

> We discovered many surprising and some disturbing facts . . . we found that the business of ETV is not at present a young man's business, . . . Our records show that 90 per cent of all the people regularly in ETV are over 34 years of age, and over 60 per cent are over 44. That means that most if not all, . . . were competent in some other field ten years ago. . . . most of these people had little or no specific training in applying the techniques of television to education: . . . they learned the hard way. More often than not they were self taught.[48]

With regard to educational communications he described this field as being short of adequately trained and experienced personnel. Not only was it difficult to find the necessary educators with background in mass communications to meet the needs of ITV but it was also difficult to find experienced mass communications personnel with a sufficient background and interest in education to contribute adequately to the use and operation of ETV facilities.[49]

In January, 1969, Bronson again reported on the problem of ETV and ITV personnel stating that there has been little improvement in the status of personnel and that there exists little evidence that the institutions offering training in radio and television or the departments of education are making any major contribution toward any significant study in this area as a major preparation.[50]

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[47] Vernon Bronson, "ETV Needs More Trained Personnel," The NAEB Journal, (September-October, 1964) p. 35.

[48] Ibid., p. 36. [49] Ibid.

[50] Vernon Bronson, "Professional Training of Personnel for Educational Television," Audiovisual Instruction (January, 1969), pp. 38-39.

With regard to teacher-performers, Maloney and Donner said:

> We have already noted that schools and departments of education have, for the most part, failed to provide adequate instruction in ETV. Although some instructors in such schools have, to their great credit, recognized the importance of television, they have generally been concerned with the effect of commercial television on children rather than with the positive potential of ETV. The training of the teacher-performer offers an example of what is now required. Although a large number of these people will hardly be needed--a few thousand, at most, over the next ten years--their training and recruitment offer serious problems.[51]

There is evidence of conflicting opinions concerning the background training which teacher-performers should have. Maloney and Donner suggest that teachers should have courses in communication skills including basic familiarization in radio and television production. They also say, "He should be familiar with the main concepts developed in mass communication research."[52]

Another of their observations is:

> We do not suppose that, in most situations, the teacher will be called upon to serve as his own writer-director-producer; but he should know what is involved in these activities, at least sufficiently to permit him to collaborate well with the professionals.[53]

Volumes could be written on the subject of qualified ITV personnel, but let this suffice with the conclusion that the research indicates that there is a problem in recruiting qualified people for one facility alone--let alone for all the combined facilities of the state or nation.

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[51] Maloney and Donner, op. cit., pp. 208-209.

[52] Ibid. [53] Ibid.

Just a few words about the size of ETV and ITV staffs. Rudy Bretz performed a comparison of Closed-Circuit ITV Logistics on three of the most significant facilities in the nation: Hagerstown, Anaheim and Santa Ana. He said:

> There are really only three school districts (if South Carolina is set aside as a special case) which operate closed-circuit instructional television "systems" in the full sense of the word. These are Hagerstown, Maryland, which is in its ninth year of operation at the time of writing; Anaheim, California, in its sixth year; and Santa Ana, California, in its second year. Now that the American Samoa project is in full operation it constitutes a fourth.[54]

Bretz's study showed a wide variance in the size of the staffs needed to do basically the same job. After listing in detail the positions and the functions performed by each employee, the resulting totals for administration, production, and engineering staffs were as listed in Table I.

TABLE I

ITV PERSONNEL*

	Hagerstown	Anaheim	Santa Ana
Administration and Production	70	24	12
Engineering	12	3	3
Totals	82	27	15

*Rudy Bretz, "Closed-Circuit ITV Logistics--Comparing Hagerstown, Anaheim & Santa Ana," The NAEB Journal (July-August, 1965), p. 76.

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[54] Rudy Bretz, "Closed-Circuit ITV Logistics--Comparing Hagerstown, Anaheim & Santa Ana," The NAEB Journal (July-August, 1965), p. 71

Bretz evaluates the ITV production versus personnel as follows:

> Hagerstown and Anaheim have about the same ratio of programs to staff: 1.7 and 1.6 weekly programs per staff member. Santa Ana's ratio is 4.6 weekly programs per staff member, but this is because 70% of Santa Ana's programs are piped in from Anaheim. The number of *locally produced* programs per staff member each week is not much less in the case of Hagerstown and Anaheim, but becomes only 1.33 for Santa Ana.[55]

In comparison, the University of Utah CCTV facility in 1966 was staffed with two full time and four part time production crews and two full time engineers for a total staff of eight.[56]

A comparison of programs per staff member for the University of Utah CCTV productions for that period was not available. However, it would be interesting to study this area in a separate investigation.

II. COSTS

The research of Gardner M. Jones is a disclosed cost analysis which referred directly to media and particularly to CCTV. This CPA study conducted for the U. S. Office of Education found that:

> The one thing that CCTV does is to spread the talents of the experienced lecturer over large numbers of students. CCTV makes it possible, then, to use *an* experienced lecturer and a group of less skilled assistants to staff a course. . . . Its validity could be found in the uniformity of instruction, the quality of lectureship reaching all course enrollees,

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[55] *Ibid.*, p. 77.

[56] Keith M. Engar and Dail Ogden, "Instructor-Directed Television," *The NAEB Journal* (March-April, 1966), p. 43

> and in the administrative convenience of stabilizing the course pattern under one lecturer for sequential terms.[57]

ITV, as a method of presenting the same lesson to a large number of students, does not eliminate the necessity for supervising student effort in an organized way.[58] Besides the cost of production of the ITV course, there is the cost of managing the course during its presentation and administering the classroom discussions, examinations, and grades.

Jones found that the cost of recording lectures on videotape was $94 per hour plus the lecture time (about $12 per hour). This comes to about $140 for a fifty-minute ITV lecture. For a 3-credit hour, 30-class period course, the cost would be approximately $4200. The average cost per term would be about $1620 if used four times per year. If the tape was only used once it would cost about $4770. Distribution costs would depend on how many viewing rooms were available for each replaying. Jones says:

> In contrast, the live lecturer for a term of 30 sessions, spending 2 hours outside for 1 hour in lecture, spends about 90 hours at a rate of (let us assume) $12 per hour, or $1080 per term. Even using these crude figures, it is difficult to find CCTV economies even when original production costs are spread over a full year, unless a large enrollment is involved.[59]

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[57] Gardner M. Jones, _A Procedural and Cost Analysis Study of Media in Instructional Systems Development_, U. S. Department of Health, Education, and Welfare, Grant No. OE-3-16-030 (Washington: Government Printing Office, 1965), pp. 62-63.

[58] _Ibid._, p. 62.

[59] _Ibid._, pp. 63-64.

Elsewhere Jones states in his study that the cost of closed circuit decreases with the number of students viewing the ITV course. The cost of a lecture for 560 students averages $13.80 per student.[60] The cost for video tape lectures was $14.05 per student for 140 students and dropped to $10.79 per student for an enrollment of 560 students.[61]

Bretz's comparisons of costs of Hagerstown, Anaheim, and Santa Ana are contained in Table II. Of course this is not a comparison of costs for higher education institutions but it will serve as a guide to the investment required for quite extensive use of ITV and CCTV facilities.

C. R. Carpenter says television systems offer highly efficient means for distributing and presenting information or instruction. He breaks down three levels of television system installation costs and estimates that total operating costs for a professional system at $35,000 a year. He concludes that the use of closed-circuit television, although costly, may not be prohibitively expensive provided the system chosen is operated efficiently.[62]

Financially, ITV and ETV require extensive support from the faculties, the institutions, the governing boards, the public, and the State legislatures. This is the only way that this new medium can obtain its fullest efficiency. As the researchers have said, it must be integrated into the entire system of teaching and not be left on the fringes to flounder for existence.

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[60] _Ibid._, p. 67.   [61] _Ibid._, p. 69.

[62] C. R. Carpenter, "Closed-Circuit TV for Resident Teaching," _College and University Business_, XXIV (February, 1958), p. 17.

TABLE II

COSTS*

	Hagerstown	Anaheim	Santa Ana
Capital Outlay to date	$448,000**	$386,447	$434,418
Cost of average classroom receivers & stands	140.	400.	425.
Total Annual Operating Costs	$324,864	$205,350	$160,657

*Rudy Bretz, "Closed-Circuit ITV Logistics--Comparing Hagerstown, Anaheim & Santa Ana," The NAEB Journal (July-August, 1965), pp. 84-85.

**Proper comparison of capital outlay requires that all costs be included regardless of the source of funds. In the case of Hagerstown, for example, the initial equipment installation, worth approximately $300,000, was donated by seventy-five electronics firms. This amount, plus the amount spent since on additional equipment, is included in the capital outlay.

III. FACULTY ATTITUDES TOWARD ITV

In studies about faculty attitudes, there has been a preponderance of negative attitudes toward the use of television for teaching. In a study on inter-institutional teaching by television in higher education in Oregon, Glenn Starlin and John E. Dallas report:

> Attitudes of faculty members toward inter-institutional instruction by television ranged from highly approving to

> strongly disapproving. A greater percentage of faculty members opposed rather than accepted the idea of television teaching.[63]

Dr. Owen S. Rich, Dr. Richard D. Poll, and Assistant Professor Tess M. Williams in their study on utilization of large-screen TV at Brigham Young University found substantially the same results concerning faculty attitudes. They concluded:

> As a whole, the Brigham Young University faculty is unfavorable toward instructional television. The general feeling is that: (1) information gain would not be as great in ITV courses as in conventional courses; (2) the presence of the teacher in the classroom overrides the advantages of instructional television; and (3) instructional television would result in the loss of teaching effectiveness. It was also felt that personal satisfaction derived from teaching could be lost through the use of ITV. The majority of respondents did, however, believe that television could be easily adapted to some of the courses they taught.[64]

Without belaboring the problem and citing additional comments about the attitudes of faculty members of institutions of higher education, these two sources are presented as generally being representative. However, the growth in the number of ITV courses being used indicates that a more positive attitude may be developing. As the general use of ITV and the state-of-the-art improves, the attitude will probably become more affirmative toward ITV.

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[63] Reid and MacLennan, *op. cit.*, p. 169.

[64] Owen S. Rich, Richard D. Poll, and Tess M. Williams, *The Utilization of Large-Screen TV to Overcome Shortage of Classroom Space and Teaching Personnel*, U. S. Department of Health, Education, and Welfare, Grant Number OE-7-54-0010-265 (Washington: Government Printing Office, 1965-1966), p. 33.

CHAPTER III

SURVEY RESULTS

Briefly, the problem is to determine the feasibility of establishing a centralized ITV facility. While enumerating problems concerning educational media in the state, the Utah Master Plan Study Committee for Supporting Services asked the question, "Should there be central TV production facilities for all state institutions of higher education?" The question presupposes a need exists, but the Master Plan neither outlines the need nor defines the heuristics resulting in the question. Therefore, the author was faced with the task of determining if a need existed for a centralized CITVPF in Utah. Another consideration was to determine the developments and trends of ITV in other states. This knowledge would be helpful in the decision-making process about establishing a CITVPF in Utah because other states are dealing with the same or similar problems of ITV in higher education; therefore, it was decided to perform a number of data-collecting surveys. It was hoped that the facts gathered could aid in analysis of the problem and determination of an acceptable solution.

I. REASONS FOR SURVEY

The reasons for the surveys being conducted were to determine the following: (a) if a need exists for an ITV production facility to meet the requirements of the various institutions, (b) the conditions or status of ITV at each institution, (c) how other states are using and solving problems of ITV operations in higher education, and (d) other information which may have bearing on the problem.

To accomplish the above, the following procedures were carried out: (a) visits and interviews were arranged at each state university and college, (b) a survey questionnaire on ITV in higher education was distributed to other states, (c) visits and interviews were arranged at other non-state institutions utilizing ITV in Utah, and (d) other inquiries were made where information bearing on the problem could be obtained.

The remainder of this chapter contains the results of these investigations.

II. SURVEY OF ITV IN UTAH UNIVERSITIES AND COLLEGES

Visits were made to the University of Utah (U of U), Utah State University (USU), and Weber State College (WSC). Telephone interviews were arranged with the academic vice-presidents at College of Eastern Utah (CEU), Southern Utah State College (SUSC, Snow College (SC), and Dixie College (DC).

University of Utah

A quite complete history of ITV and CCTV operations at the University of Utah was prepared by the CCTV supervisor. This history covers the period from the fall of 1959 to December 1968.[65] The first CCTV class was Sociology 1 carried live over CCTV to a large group of students in the adjoining room. There was no such advantage as a video tape recorder or other modern television facilities.[66] The teachers were Dr. Henry Frost and Dr. Thomas F. O'Dea who teamed up to teach this course. Dr. Frost reported, "The closed-circuit is an excellent medium for large classes."[67] Simister says, "From that rough beginning, over 130 hours of instruction per week is currently presented via the television receiver."[68] There was a steady growth in the University of Utah ITV facilities and production until 1969. From 1959 until the spring of 1964 the number of ITV courses taught for credit varied from one to four. From 1964 until present there has been a steady increase of ITV courses for credit to a total of 15 in the current curriculum.

The following courses have been taught at least once (those marked with an asterisk are currently being taught): American Civilization, Anthropology1, *Biology 1, Civil Engineering 161, *Engineering in Training, English 1, *Foods and Nutrition 41, Genetics 1, *Geography 1, *Geography 10, Geography 199R, *Health Education 1, *History 1, *History 2, *History 76, History 178, Humanities 1, *Humanities 2, *Humanities 3, Humanities 11H,

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[65] Wayne Simister, "University of Utah Instructional Television History" (Salt Lake City: CCTV Office, University of Utah, December 1968). (Mimeographed.)

[66] Ibid., p. 1. [67] Ibid. [68] Ibid., p. 3.

*Humanities 12H, *Humanities 13H, Political Science 10, Psychology 5, Sociology 1, *Theatre 90, Zoology 1, and *Health Education 108.

The University of Utah uses the instructor-directed method of production of ITV courses. This allows the teacher to control the switching and eliminates the large production staff required in producer-director methods of production. Thus, a complex program which normally would take several hours to write, direct, rehearse, and produce on videotape can be quickly videotaped in an excellent and umcomplicated manner.[69] Engar and Ogden's article in the NAEB Journal provides an extensive explanation of this method of production.[70] This method utilizes an overhead camera with zoom lens in addition to the standard floor camera. The instructor can place his visual materials directly on the flat surface console under the overhead camera. He has control of the zoom and three cameras by the use of a switcher at his console. The instructor also has a means to "super" the titles of the materials over the visuals shown on camera. The ITV supervisors claim that an instructor can be indoctrinated to use the instructor-directed methods including the use of the switcher in very short time (in some cases as short as one-half hour). The instructor has control of starting and stopping the projector for film clips or slides as he chooses.[71] A one-half hour demonstration film is available from the University of Utah.

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[69] Ibid., p. 3. [70] Engar and Ogden, op. cit. [71] Ibid., p. 41.

The campus CCTV distribution system is operated by a time-controlled video tape recorder multi-channel automated switcher designed and installed by the station engineer.

The ITV portion of the University of Utah television operation is completely separate but connected by video cable from the ETV studios and Channel KUED operation. The CCTV section supports the two Salt Lake school districts and campus ITV distribution with two transmittors (UHF), K71AU (10 watts) and K74AY (100 watts), under special authority from the Federal Communications Commission. Funding for the school district operation is provided by the Salt Lake and Granite School Districts. KUED, a Channel 7 VHF Station, provides extensive elementary and secondary ETV broadcasting support which covers the state of Utah and extends into portions of Idaho, Monatana, and Wyoming. This network is the most widely distributed ETV operation in this area.

In the opinion of the author, the extensive ETV and ITV facilities at the University of Utah more nearly fills the needs of that institution than any other institution of higher education in Utah. However, there was some agreement that a centralized ITV production facility would be useful to the University of Utah. This is primarily because of the problems of scheduling studio time for rehearsals and productions.

The faculty and staff indicated a considerable positive attitude toward the use of ITV. This is supported by the number and success of current ITV courses being taught. However, some faculty members still have a resistance to the new medium. The 1969 Spring Quarter had a student ITV enrollment of 1,710 for 4,674 student credit hours. The weekly schedule for studio rehearsal and recording provided the following: University of Utah 10.0 hours; Granite School District 4.8 hours; Salt Lake City School District 1.3 hours. The CCTV Station K74AY (Channel 74) transmitted 67 programs per week to the Granite and Salt Lake City School Districts in the fall of 1968 and 52 programs per week in the spring of 1969. The school district programs averaged twenty minutes in length. According to the University of Utah ITV reports for Fall and Spring Quarters 1968-1969, 132 programs per week (average length of 50 minutes) were transmitted over the CCTV cable to six separate buildings on campus during the Fall Quarter of 1968. During the Spring Quarter of 1969, 94 programs per week were transmitted over CCTV on campus. The CCTV cable from Orson Spencer Hall terminates in 17 classrooms in six buildings and Pioneer Memorial Theater on campus in addition to KUED, the Merrill Engineering Building, and the University Medical Center. The latter three buildings do not serve as ITV classrooms but the cable provides interchange of video materials between the facilities located therein. Receivers are tuned to the CCTV channel much the same as commercial broadcasting.

The additional services provided by ITV are: micro-teaching, remote pickup for overflow crowds in Orson Spencer Hall or Mark Green Hall from the Pioneer Memorial Theater and the Union Building, campus-wide educational media visual aid service for previewing films, and special video tape instruction programs for small group viewing in the library.

The ITV/CCTV staff consists of the following: Instructional Television Director (also Associate Director of University Radio Television Services), Operation Supervison (1) (full time), Secretary (1) (full time), Chief Engineer (1) (full time), Engineering Assistants (3) (full time), Production Director (2) (full time), Cameramen (4) (part time), and Artist (1) (full time), or a total of nine full time and four part time personnel. The extent of ITV courses being offered and the other services provided speaks highly of the University of Utah ITV/CCTV operations.

Utah State University

A limited amount of ITV operations is being conducted at Utah State University. A temporary ETV studio for Station KUSU is installed in a quonset-type building and provides space for the studio, administration, control room, and associated maintenance. The method of transmitting ITV courses for viewing is by use of the Eidophor Large-Screen TV Projector connected via video cable to a remote large lecture hall. Video cable is also connected from the KUSU studios to the ITV studios located on the third floor of the library. Video cable is installed to other buildings on campus but has not as yet been terminated with television equipment.

Four ITV courses for credit are being used at Utah State University. They are Basic English 24, Political Science 10, Basic Music 1, and Sociology 70. It was reported that the faculty and students received these courses with a positive attitude. This initial success has led to the planning of additional ITV courses when funds become available. They are: Psychology 53, Family and Child Development 67, Chemistry 10, and Chemistry 11. Consideration is also being given to the use of ITV for Physiology and Physics courses when the desired curriculum is determined.

The ITV supervisor performed an evaluation of the English 24 and Political Science 10 courses offered by CCTV during the Winter Quarter 1968-1969.[72] Initially there was some apprehension by students taking these courses, primarily because the majority of students were unfamiliar with ITV. Christensen said, "In general, the students were much more favorable toward television than indicated by the previous survey. The majority of students said they would take additional courses on television."[73] The students reacted favorably to television lectures with no additional discussion sessions, but they were slightly negative to attending one additional discussion session per week.[74] The students suggested having shorter television lectures and allowing ten minutes for discussion with an in-class instructor. This would increase the student's personal contact with the teacher.[75]

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[72] Ted Christensen, "Closed Circuit Television, Evaluation of English 24 and Political Science 10" (Logan, Utah: Utah State University), 1969. (Mimeographed.)

[73] _Ibid._, p. 3.

[74] _Ibid._

[75] _Ibid._, p. 4.

ETV Station KUSU broadcasts the Utah Network for Instructional Television (UNIT) courses to Utah's elementary and secondary schools in Cache Valley. Microwave connection with KUED in Salt Lake City may change this portion of their ETV mission in the near future.

A positive attitude was reflected toward the future use of ITV by the faculty involved in current television courses. It was indicated that there was some reservation by faculty members who had not previously used ITV.

The ITV/CCTV studios in the library are equipped with RCA electric zoom cameras. The ITV supervisor indicated a preference for manual zoom controls since electric zooms did not provide for variable speed zoom. An overhead projector attached to a lectern is used for visual transparencies and other visual materials. Though switcher controls are attached to the lectern allowing for instructor-directed operation, all courses are produced with a director and cameraman assisting the instructor. It was indicated that the instructors were fearful of directing their own ITV courses. Experience and confidence in the use of television may alter this procedure in the future.

The ITV control room is well equipped for video recording with special effects equipment. Connection to the main KUSU control room is possible via interconnecting video cable. This allows for taping of ITV productions in the KUSU control room and remote use of the film chain, etc. There is a limited amount of in-room ITV equipment for micro-teaching, demonstrations, etc., however, the Utah State

University staff is anxious to obtain more portable television equipment. Utah State University has the basic equipment required to provide adequate ETV and ITV operations.

The primary limitations observed during this investigation was the on-campus CCTV distribution system. When funds are provided to complete the cable distribution system and permanent building facilities for KUSU, Utah State University will have adequate television capability.

Weber State College

A small ITV studio has only recently been installed at Weber State College. These facilities are housed on the first floor of the library adjacent to the newly installed dial access facilities. Effectively, the ITV facilities have not been placed into active operation. The small control room has a standard classroom located next door which will be used for the ITV studio. The administration indicated that the primary use of ITV at the institution would be to supplement the classroom instructor. A limited amount of portable television equipment is presently available for in-class demonstrations and micro-teaching. However, as in the case of Utah State University, there is a desire for more portable television equipment.

Weber State College has not produced ITV courses for credit. However, the history course produced by cooperative efforts of history professors throughout Utah under the direction of Dr. Owen S. Rich was used at Weber State College for one and one-half quarters. Some of the history professors indicated there were limitations with this course which did not meet the requirements of their department. The attitudes expressed by various persons interviewed indicated a rather negative feeling toward ITV. This is especially true with regard to using ITV courses for credit produced by other institutions. There was an apparent conflict of policy in teaching the American History course. For example, some institutions include the Pre-Colonial American period where others commence American History with the Revolutionary War.

The overall attitude reflected a preference for using materials which were prepared by their own institution. Outside materials would be selected with reservation. Only those portions compatible with the local department's policies would be used. Professors who participated in the state history production indicated a more positive attitude toward the television medium as a result of their exposure to this course.

College of Eastern Utah

The College of Eastern Utah has limited ITV equipment and does not produce ITV courses for credit on its campus. The Academic Dean indicated the College of Eastern Utah participated with the state-produced history course, however, only 35 to 40 students were enrolled. A positive attitude was reflected toward the television medium but "in a limited way." The instructors apparently have a favorable attitude but tend to be oriented toward in-class ITV. The College of Eastern Utah favors ITV as an aid to the instructor rather than complete television courses per se. The College of Eastern Utah is using the limited number of video tape recorders available for micro-teaching and other in-room demonstrations. The science instructors are enthused about in-room ITV and are looking forward to receiving more equipment for magnification and demonstrations of scientific principles.

The Academic Dean indicated that other ITV courses may be evaluated for use by the College of Eastern Utah if they were made available from ITV libraries. He indicated that the reason that other courses are not being used at the present time is that they are not available to that institution. The attitude of the faculty apparently is very positive toward the prospects of ITV for instruction but wants to obtain more experience in this area before committing themselves to major program changes.

Southern Utah State College

The Director in Charge of Academic Affairs indicated that Southern Utah State College did not participate with the statewide ITV history course. However, they have used a geography course prepared by University of Utah. A favorable attitude was reflected toward the use of this course. Instructors in the Science Department and particularly the biological sciences are anxious to obtain television equipment for in-class use in the same manner as indicated by other institutions.

Southern Utah State College has no central studio installation at the present, however, a $50,000 grant from the State had been allocated for that purpose. Further action to complete this project is pending. It was determined that Southern Utah State College favored having more portable television equipment for demonstrations, micro-teaching, etc. The Education Department is presently using portable equipment for micro-teaching.

The attitudes of the faculty members toward ITV range from positive to negative. At least there are mixed feelings among faculty members concerning teaching with television. The interview disclosed Southern Utah State College viewed television as another tool to assist the instructor rather than a total teaching medium.

Southern Utah State College is not officially connected with the Southwest Utah Media Center but has considered becoming an associate member so the Southern Utah State College would have access to the media center materials and services. There were no indications of plans to combine any ITV functions with the media center.

Snow College

The Dean of Instruction at Snow College indicated that the state history course was utilized for one quarter, but the scheduling of the KUED broadcasts conflicted with the Snow College course schedule which was a limitation to its success. They have not participated in any other ITV courses for credit and have no production facilities. A positive attitude was reflected toward using ITV courses which are well prepared and fit their academic standards.

Only a limited amount of portable TV equipment is available. Snow College would also welcome more equipment and facilities which could be used to enhance their local instruction.

There is no open resistance but a general positive attitude towards television materials for teaching. Provided they were made available to Snow College, courses produced elsewhere in the nation would be used if they were well prepared and met the academic needs.

Dixie College

The interview indicated that Dixie used the state ITV history course during the period that it was offered. Dixie College is now using the Brigham Young University History 170 ITV course entitled "American Heritage." Apparently this is satisfactory for the needs of the Dixie History Department.

Dixie College has a limited amount of portable equipment including one television camera which is primarily used for public relations work.

The administration reported that the faculty members are given the flexibility of determining whether ITV would be used in their department or not. However when it is used, ITV should be used to supplement the teacher. The use of regional or centralized facilities would be discouraged as duplication and waste of money. This small institution apparently has not developed the need for extensive use of television or sophisticated instructional media.

General Observations

The problem of recruiting qualified television production and technical personnel exists generally at all institutions in the state. The University of Utah appears to have less difficulty in this area probably because it is located in the metropolitan area and in the proximity of the commercial television stations of the state.

III. SURVEY OF ITV IN OTHER INSTITUTIONS IN UTAH

A very cursory investigation was made of the use of ITV in other independent institutions in the state of Utah. Time did not permit to provide an in-depth study. However, the information derived provides a basis for comparison with what is being done by Utah institutions of higher education. The ITV operations investigated were those of Brigham Young University and Hill Air Force Base.

Brigham Young University

Brigham Young University operates ETV Station KBYU (VHF) on Channel 11. The ITV staff utilize the ETV studios for productions. The following eight courses are being taught by television: History 170, Religion 121, Religion 122, Religion 241, Religion 242, Physics 100, Math 105, and Math 111. History 170 is the only course in which television is used in its entirety. Physics 100 uses television for in-class demonstrations. The remainder are partial ITV and lecture courses. The enrollment for 1969 Spring Semester ITV courses was 3,616.

In addition, portable television system (PTS) units are used extensively throughout the campus. Brigham Young University owns 12 PTS units which are equipped with these items: TV camera, one-inch video tape recorder, TV receiver-monitor, microphone, and related equipment. All this is contained in a specially designed mobile cart.[76] The PTS units are scheduled on a daily basis by the various departments and faculty members. This concept is widely accepted by instructors for supplementing in-class materials. Other portable television units are assigned permanently to departments for micro-teaching, etc.

Brigham Young University maintains a production staff for ITV and utilizes the producer-director method of production. The staff consists of approximately 8 full-time and 21 part-time personnel (primarily students). The current planning includes additional pilot ITV courses. These will be produced during the summer and fall of 1969. The negative attitude of the faculty reflected in the Rich, Paul, and Williams study appears to be mellowing toward a more receptive attitude toward ITV.[77]

Both the large-screen and classroom installed television receivers are used as ITV course viewing methods. These are interconnected by an extensive video cable distribution system throughout the campus. This system permits overflow viewing for athletic, assemblies, and church activities.

Brigham Young University is heavily oriented towards educational media materials. A Dial Access/Remote Information Retrieval System with over 109 study carrels in the Brigham Young University library were recently installed. At present, the 120 program channels provide audio listening only. Remote film and video access capability may be added in the future.

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[76] "Portable Television Systems," Mediated Learning Systems Newsletter, Vol. I, No. 2 (Brigham Young University, December, 1968), p. 1.

[77] Rich, Poll, and Williams, op. cit., p. 59.

The ITV operations at Brigham Young University are growing steadily, however, the most popular use of this medium remains with in-room demonstrations and use of the PTS units. Recruiting of trained and qualified production and technical personnel is a continuing problem.

Hill Air Force Base

Investigation of ITV production facilities at Hill Air Force Base disclosed a complete black and white broadcast-quality television studio. The facility provides the latest in special effects, editing, and "Multi-Synch" equipment which may be converted to full color by insertion of module components when the need and budget permits. In addition to the studio facilities, a fully equipped mobile vehicle and an Ampex portable video tape recorder are available. The mobile and portable units are used for on-the-spot productions in the maintenance and operating areas of the base. In addition to serving Hill Air Force Base, the ITV services the needs of the entire Air Force Logistics Command consisting of five Air Material Areas (AMA) located at Sacramento, California; San Antonio, Texas; Oklahoma City, Oklahoma; Dayton, Ohio; and Ogden, Utah. The initial equipment and installation costs totaled $375,000.

The ITV productions consist of familiarization, training, and complete concept teaching for the Hill Air Force Base population of approximately 16,700 personnel. During the period of July 1967 to June 1969, approximately 200 video tape programs (average length of 20 minutes) were produced. Ninety-seven of these programs were for Fiscal Year 1968 (FY68). Approximately 60-70 per cent of these programs were scripted and the remaining 30-40 per cent were nonscripted.

From July 1968 to March 1969, over 17,000 workers viewed productions in their work areas. During the third quarter of FY69, there was a viewing audience of 7,077. A base video cable distribution system from the ITV production studios is scheduled for fiscal year 1971. At present, portable video tape recorders and monitors are taken to the work areas to show the ITV training programs.

It has been estimated by Hill Air Force Base personnel that by distributing the applicable training modules to all five AMAs, training instructors on certain contracts to the Air Force may be discontinued. This will result in a savings of approximately $100,000 per year at each AMA, or a total of $500,000. This is only one specific area of savings now calculated. Future savings will be multiplied by application of ITV to other areas. The Hill Air Force Base supervisory personnel and AFLC directors are highly enthused with the success of this program. Innumerable man-hours are saved by giving the training in the immediate work area, thus saving the time for workers to go to and from lecture halls which is non-productive work time otherwise lost. For example, the Air Force F4C tactical fighter egress system requires training of 1,000 personnel. According to Hill Air Force Base official, this can be accomplished in 25 per cent less time with 80 per cent or more effectiveness. This example may be multiplied many times by other training requirements.

This entire operation is performed with an ITV staff of 12 personnel; two officers, two civilians, one noncommissioned officer, and seven airmen. The Air Force also experiences difficulty in obtaining qualified production personnel. With the emphasis on economy and manpower austerity, the contribution of ITV to this efficiency in the Air Force appears to be commendable. The operation at Hill Air Force Base is an excellent example of savings which can result from a centralized ITV facility.

IV. SURVEY OF ITV IN HIGHER EDUCATION OF OTHER STATES

In order to obtain information concerning ITV usage in other states for comparison with Utah, a questionnaire was forwarded to each state and the District of Columbia. Thirty five states and the District of Columbia returned at least a partially completed questionnaire. This represents 71 per cent of the states. Since all states which comprise the entire universe were surveyed, the response did not represent a random sample for statistical evaluation. However, as a matter of interest, a Chi Square analysis with Yates correction was performed on the questions answered yes or no. The following is summarized from the results contained in Appendixes D and E.

Question 1. How many state supported institutions of higher education are in your state? The totals ranged from three institutions for Nevada to 240 institutions for New York. Excluding New York, the total number of institutions reported was 137 universities, 145 colleges, 278 junior colleges, and 321 other.

Question 2. Are complete Instructional Television (ITV) courses in varied subjects offered for credit? The total answering this question was thirty-five with twenty-four (69%) answering yes and eleven (31%) answering no. Significance level: P = .05.

Question 3. Are ITV courses for credit prepared by one institution also offered for credit in other institutions in your state? There were a total of thirty-six answering with eleven (31%) answering yes and twenty-five (69%) answering no. P = .05.

Question 4. How many ITV courses are being offered for credit? The total answering was thirty-one with five having none, sixteen having 1-10, five having 11-20, none having 21-30 or 31-40, and four with over 40.

Question 5. What institution produces the most ITV courses for credit in your state? The twenty-nine answers ranged from 1 to 100. The Chicago State Television College has 100 ITV courses for credit. The next highest was the University of Minnesota with 79 and then the University of Missouri with 40. The majority of the states reported from 2 to 7 ITV courses for credit at one institution.

Question 6. What ITV production facilities are being used for institutions of higher education in your state? The average response of the 35 answers indicated 2 or more production facilities being utilized by each state. Twenty-one states reported using ETV studios and twenty-four using ITV studios. Twenty-five states reported classroom use of television for demonstrations, etc. Six states reported using elementary or secondary education studios. Six states reported using other facilities, such as mobile or commercial facilities.

Question 7. Do your state supported institutions of higher education use centralized ITV production facilities serving more than one institution? Thirty-three states answered this question with eight (24%) answering yes and twenty-five (76%) answering no. P = .10.

Question 8. Is your state considering the use of centralized ITV production facilities in the future? Thirty states answered this question with twenty (66%) answering yes and ten (34%) answering no. P = .20.

Question 9. How often is television used by instructors for in-room demonstrations or to augment instructional materials for other than ITV credit courses? Of thirty-two answering, twenty (62%) reported using ITV not very often; nine (35%) reported using television quite often; four (8%) reported using ITV very often; one (4%) reported using ITV continuously; and none reported not using television at all.

Question 10. Do you have difficulty recruiting qualified and trained production and technical personnel for ITV operations? Thirty-two answered this question with twenty-five (78%) answering yes and seven (22%) answering no. P = .01.

The 71 per cent response to the survey resulted in a significance level of P = .01., so the total survey can be considered of value in determining the trends of the other states in the use of ITV in higher education. Most states are not using centralized production facilities but the trend is toward considering it for the future. The shift from 75 per cent not using centralized production facilities to 66 per cent considering it in the future shows about a 90 per cent reversal.

Additional Information Submitted by the States

Illinois reported extensive use of instructional television for elementary and secondary education as well as extensive cooperation with other institutions of higher education. Illinois's Project Earlybird provides for multiple transmissions from nine transmitters giving state-wide coverage. The April 1969 issue of the *Illinois Journal of Education* returned with the questionnaire included an article by Robert Schultz entitled, "Needed One Thousand Video Technicians."[78] A need for television technicians is reported as essential to the successful operation of the state-wide Illinois television system. Schultz concluded:

> It can be sincerely hoped that our technical schools, equipment manufacturers, colleges, and television stations throughout the country will work together, through intern and training programs to provide an adequate supply of trained personnel in time to meet the challenge of change toward a quality education for all of our youth.[79]

Ohio reported extensively concerning the ETV and ITV program in that state. It was interesting to note that $1.2 million had been appropriated by the legislature for ETV contract services. In reference to question 8 of the questionnaire, Ohio reported, "There are so many production facilities already in existence that centralized ITV production facilities would not be considered feasible at this time." Ohio State University's (OSU) Annual Report of Activities from the Office of Instructional Radio-TV and Telecommunications Center dated June 1969, reported a total of 30,858 enrollment units in university telecourses. This is an increase of 12 per cent over the previous year. A special ITV production entitled "To Learn More, To Learn It Better" was produced for indoctrination of students, visitors, and other groups. A number of other special ITV productions were produced by Ohio State University for the use of varied groups. The effectiveness of their ITV was attributed to some extent to the activation of a telecommunications center at the University. Since 1962, the ITV library at Ohio State University has collected more than 800 items for use during the current year.

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[78] Robert M. Schultz, "Needed One Thousand Video Technicians," *Illinois Journal of Education*, Vol. LX, No. 4 (Springfield, Illinois, April, 1969), p. 5.

[79] *Ibid.*, p. 11.

The Illinois Legislature of 1967 passed House Bill 2138, providing for establishment of a Department of Instructional Television and Radio in the Office of Superintendent of Public Instruction.[80] This council was organized in December 1967. A similar advisory council formed in the state of Utah is the Utah Educational Media Advisory Committee. Robert Pirsein, Chairman of the Illinois Advisory Council for Instructional Television and Radio, said, "It is important that the ultimate user be involved in the planning and development either directly or in an advisory capacity.[81] This is a basic truism in any management system trying to implement innovations and changes.

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[80] Robert W. Pirsein, "Advisory Council for Instructional Television and Radio," Illinois Journal of Education, Vol. LX, No. 4 (April, 1969), p. 20.

Nebraska reported the organization of a non-profit educational television corporation for centralized ITV production and administration of television courses for institutions of higher education. An extract of a brochure of the Nebraska Educational Television Corporation of Higher Education (NETCHE) is contained in Appendix C. The corporation is administered under the direction of the State Board of Education. This approach toward solving the ETV/ITV problems of a state follows the pattern at the federal level in establishing such corporations as Communications Satellite Corporation and Public Broadcast Corporation. This provides the governing body necessary to accomplish extensive and comprehensive missions otherwise difficult to administer.

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[81] Ibid.

V. OTHER INFORMATION BEARING ON THE PROBLEM

The author inquired through personal correspondence to Mr. Vernon Bronson, Executive Consultant to NAEB concerning the present status on implementation of ITV in the field of higher education. His answer reflected the following about attitudes and problems of implementing innovations in higher education:

> . . . much effort has been made and is being made to amplify the effective use of existing facilities and human resources at all levels of formal education and systematic instruction. As in all such efforts, there is a great deal of resistance by the self-interested establishment, and experimentation is held down and successes derided. There is still a great number of educationists who confuse the individual and personal process of learning with the broad and variable parameters of instruction. In these days of expanding mass education and broadening curricula there are still those who speak in hushed tones about individual instruction, and who would still put Mark Hopkins on one end of the log and the student on the other, even if Mark knew little, had nothing to teach, and was replete with personal bias![82]

Bronson goes on to say that the concept of a centralized production facility for "cooperatively developing and presenting up-to-date and relevant instructional material is not only practical but is rapidly becoming an essential. . . ."[83] He also says, "Eventually the real revolution in education will come, lead by an intensive and extensive use of Educational Technology."[84] He succinctly explains the changing role of the instructor in this way:

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[82] Personal correspondence from Vernon Bronson to the author, June 15, 1969.

[83] Ibid. [84] Ibid.

> The classroom instructor will change his role completely and be more and more an advisor and a mentor. But the start now must be made by developing techniques of cooperation among the faculties and the schools. It can be done and it has been done, but it is not easy. Of course, precedent to all this is the necessity to develop a new type of educator--one who can relate the basics of the learning process with the principles of communication, and can learn to apply cooperatively the analytical and qualitative methods that are essential to the use of technology.[85]

Charles Frankel, Columbia University Professor of Philosophy and former Assistant Secretary of State for Cultural Affairs, at a recent conference called for "an exchange of views between the telecommunicator and the teacher." Such a dialogue, he said, "must begin at once."[86]

These current statements by renowned authorities in the field point out emphatically that a revolution is going on within the bounds of education between the traditionalists and the innovators. Educational technology is bound to be the victor. Is ITV destined to be one of the triumphant victors?

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[85] Ibid.

[86] Frank W. Norwood, "A Conference on Telecommunications Policy and Education: The Time for Action is Now," Audiovisual Instruction (February, 1969), p. 79.

CHAPTER IV

FINDINGS AND EVALUATION OF FINDINGS

The reader will recall that at the beginning of Chapter III, the task facing the author was to determine if a need exists for a centralized ITV production facility (CITVPF). Before such a need could be determined, it was necessary to evaluate the status of ITV at all institutions. In this chapter, the author will enumerate the findings of the survey of institutions in Utah followed by the findings about other institutions and states. During the enumeration of findings of other states, a comparison will be made about Utah's standing. The remainder of this chapter contains an evaluation of the findings and weighs the feasibility of Utah establishing a CITVPF.

I. FINDINGS OF UTAH SURVEY

The following are findings concerning the state institutions of higher education in Utah, and other institutions in Utah.

University of Utah

1. ITV courses for credit have been produced in 28 different subjects since the Fall Quarter of 1959. Since that date, 154 courses have been taught by ITV. Currently 15 ITV courses are being offered for credit.

2. The instructor-directed method of production of ITV has proven to be very successful and economical from a personnel point of

view. The ITV CCTV staff consists of nine full-time and four part-time personnel.

3. The ITV and CCTV section is separated from the ETV operation and has separate studio and control room facilities.

4. The CCTV section also operates Channels 71 and 74 in support of Salt Lake and Granite School Districts, transmitting approximately 52 programs per week.

5. Between 94 and 132 programs per week were transmitted over CCTV on campus during the 1968-1969 school year. Studio rehearsal and production time was 32 hours per week in the fall and 16.2 hours per week in the spring.

6. During the 1969 Spring Quarter, the student ITV enrollment was 1,710.

7. The faculty and staff indicate a generally positive attitude toward the use of ITV. This attitude is growing with the increased number of instructors becoming involved with television courses.

Utah State University

1. Four ITV courses for credit have been produced.

2. The producer-director method of production of ITV is used. The staff consists of 1 full-time and 15 part-time personnel.

3. The ITV section is separated from, but interconnected with, the ETV operation and has separate studio and control room facilities.

4. Presently all courses utilize the large-screen and lecture hall method of viewing. The video cable distribution system has not been completed for classroom viewing.

5. During the 1969 Spring Quarter, the student enrollment in ITV classes was 440.

6. A positive attitude was reflected toward the use of ITV by the faculty involved in current television courses. However, there was reservation and negative attitudes by faculty members who had not used ITV. The Vice President for Academics favors cautious movement toward using this new medium.

Weber State College

1. Weber State College has not produced ITV courses for credit, however, they have participated in using the state-produced history course.

2. Only limited ITV studio facilities have been recently installed. Some portable television equipment is available for in-class demonstrations and micro-teaching. Weber State College desires more of this type equipment.

3. The administration and faculty favor in-class instructor-supported ITV rather than complete ITV courses for credit. They also reflect a preference for courses prepared by their own institution rather than material prepared elsewhere.

4. Except for instructors who participated in the state history production, the attitude toward ITV is predominantly negative. The Weber State College administration express opposition to constructing more ITV production facilities in the state.

College of Eastern Utah

1. College of Eastern Utah has not produced ITV courses for credit, however, they have participated in using the state-produced history course with an enrollment of approximately 35 students.

2. Only limited television equipment is available and portable equipment is used for in-class demonstrations and micro-teaching. More portable is desired for classroom use as an aid to the instructor.

3. Evaluation of ITV course materials from national or regional ITV libraries would be welcomed.

4. A positive attitude was indicated toward the prospects of using ITV for instructional purposes.

Southern Utah State College

1. Southern Utah State College has not produced ITV courses for credit and did not participate with the state-produced history course. However, they have used the geography course prepared by the University of Utah.

2. Southern Utah State College lacks studio facilities and production personnel for producing ITV courses for credit.

3. The attitude of the faculty is mixed and ranges from positive to negative. Southern Utah State College favors the use of portable equipment to support in-class instruction and is anxious to obtain additional equipment for this purpose. Television is viewed as another tool to assist the instructor rather than as a total teaching medium.

5. Southern Utah State College favors being associated with the Southwest Utah Media Center for access to the materials but indicates no plans for combining ITV functions with the media center.

Snow College

1. Snow College has not produced ITV courses for credit, however, they have participated in the State-produced history course. They have not participated in any other ITV courses for credit but reflected a positive attitude toward using ITV materials which are well prepared and fit their academic standards.

2. There is a lack of studio facilities and production personnel for producing ITV courses for credit.

3. The faculty favors the use of portable equipment to support in-class instruction and is anxious to obtain additional equipment for this purpose.

4. There is a favorable attitude toward using well prepared ITV courses produced elsewhere in the nation if the courses met the needs of the curriculum.

5. A rather positive attitude was reflected toward using ITV materials. The faculty favored increased use of ITV equipment in the classroom.

Dixie College

1. Dixie College has limited television equipment and no production capability to produce ITV courses for credit. Dixie College used the state-produced history course and is now using the Brigham

Young University ITV history course.

2. Dixie College believes ITV should be used primarily to supplement teachers.

3. Dixie College has a generally negative attitude toward ITV courses for credit and reflects opposition to using state funds for construction of a centralized ITV production facility.

Brigham Young University

1. Eight ITV courses for credit are currently being offered in the academic program. Of these ITV courses, one uses ITV in its entirety. Seven courses use partial ITV and partial instructor lectures.

2. Twelve portable television units complete with camera, video tape recorder, and monitor-receiver are used extensively throughout the campus. In addition, much ITV portable television equipment is used for micro-teaching, demonstrations, etc., and are assigned permanently to the departments concerned. This usage of television is more widely accepted by the faculty than complete ITV courses.

3. The producer-director method of production is used in making ITV courses with an ITV staff and 8 full-time and 21 part-time personnel.

4. Recruiting of full-time trained personnel continues to be a problem.

5. The ITV and ETV operations share the same studio for all productions. There is no separate ITV facility for production and distribution.

6. Both large-screen and class monitor viewing methods are used. These viewing methods are fed through the video cable distribution system throughout the campus.

7. During the 1969 Spring Semester, there was a student enrollment of 3,616 in ITV courses using predominately large-screen viewing and large classes.

8. Though the faculty attitude appears to be changing slightly toward ITV, there is primarily a negative attitude toward using television as a major teaching medium.

Hill Air Force Base

1. A complete broadcast quality control room with production studio has been installed at Hill Air Force Base for centralized ITV production purposes. In addition, mobile and portable equipment is used for on-the-spot productions in the maintenance and operating areas of the base.

2. Approximately 100 ITV training programs have been produced during each of the fiscal years 1968 and 1969 for civilian and military personnel. Many of these ITV modules will be used for distribution to other Air Material Areas throughout the United States.

3. Over 17,000 employees viewed ITV training programs from July, 1968 to March, 1969. Extensive savings have been forecast as a result of using ITV. One training program to be produced by Hill Air Force Base ITV section is to be used by four other Air Material Area bases. It is projected to save approximately $500,000. It is claimed that personnel can be trained in 25 per cent less time with 80 per cent

or more effectiveness.

4. The ITV operation has a staff of twelve personnel: two officers, two civilians, one noncommissioned officer, and seven airmen. The Air Force also experiences difficulty in obtaining qualified production personnel. All of the airmen are trained after being assigned to the ITV section.

5. This centralized ITV facility shows what the Air Force has accomplished by using this concept with a very positive attitude.

II. FINDINGS FROM OTHER STATES

1. Thirty-five (64%) states and the District of Columbia completed questionnaires on the survey of states. Twenty-five (76%) of the thirty-three states responding have institutions of higher education offering ITV courses for credit. Utah compares with this group.

2. Eleven (31%) of the thirty-five states responding offered at least one course for credit which was prepared by another institution. Utah compares with this group.

3. Of the thirty-one states responding to the number of ITV courses being offered for credit in their state, nine (29%) states offered eleven or more ITV courses. Utah offered nineteen.

4. Of the thirty-five states responding about the type of production facilities used, twenty-one used ETV studios, twenty-four used ITV studios, twenty-four used classrooms, seven used elementary or secondary school district studios, and six used other facilities. Utah used ETV, ITV, and classroom facilities.

5. Of Thirty-three states responding, twenty-five (75%) did not use centralized ITV production facilities serving more than one institution. Utah does not use centralized production facilities serving more than one institution.

6. Of thirty states responding twenty (66%) were considering the use of centralized ITV production facilities in the future. Utah compares with this group.

7. Of thirty-two states answering, twenty-five (78%) have experienced difficulty recruiting qualified and trained production and technical personnel for ITV operations. Utah institutions also experience this difficulty.

8. Some of the states which are using ITV quite extensively, such as Nebraska, Illinois, and Ohio have established a separate full-time ITV governing agency.

III. OTHER FINDINGS

Mr. Vernon Bronson, Executive Consultant to National Association of Educational Broadcasters, told the author "centralized production facilities for cooperatively developing and presenting up-to-date relevant instructional material is not only practical but is rapidly becoming an essential."[87]

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[87] Bronson, loc. cit.

IV. EVALUATION OF THE FINDINGS

The overall ITV effort by state supported institutions of higher education in Utah has been carried primarily by one institution, i.e., University of Utah. With the exception of University of Utah and Utah State University, it was found that there is very little use of ITV in Utah colleges. Other than the pilot course in history, the colleges have used television primarily for demonstration and micro-teaching. In addition, the colleges do not have the human resources or physical facilities to prepare either partial or complete ITV courses.

Personnel

The availability of trained production and technical personnel for ITV is not only a problem in the state of Utah but in the great majority of the United States. This fact becomes a major deterent to rapid expansion of ITV operations in institutions of higher education at the present time. Apparently this restriction compares to that reported in the previous literature from the early 1960's and will exist until sufficient training is accomplished to overcome the manpower shortage in these specialties.

Another problem is recruiting ITV specialists in areas away from the larger metropolitan centers. Recruiting is much more difficult. This is evident by the fact that Utah State University has only been able to recruit and retain one full-time specialist which is the ITV supervisor. Evidently the pay scales available are not sufficient to attract applicants to the schools located in small towns in Utah.

This problem would also apply to the colleges in central and southern Utah

From a personnel standpoint, if each institution were to attempt to establish an ITV production facility similar to those now operating at the University of Utah and Utah State University, there would be a requirement of about six full-time and six to twelve part-time people. Conservatively estimating only six full-time employees for the colleges and five more full-time specialists for Utah State University, thirty-five trained ITV specialists would be needed. One can see little hope that this many specialists would be available within a reasonable time to fully support ITV production facilities in each college. A centralized facility would be more feasible.

Attitude

The negative attitude, or possible more rightly expressed, the lack of a positive attitude by both administrators and faculty who have not been involved with television, result in a heavy burden of selling the medium to the present educational establishment. Rather than approaching the task of designing the future educational system for the state of Utah through present administration, it would behoove the state authorities to select and promote those competent and enthusiastic supporters of educational technology to high positions of authority in the new governance structure. Don't fool around with the traditionalists with the negative attitudes who will drag their feet and have to be convinced before they will move to support the destiny of the newer methods of education. A good play in circumventing the defense of the negative attitude forward wall would be throwing the long pass (the bomb) over the defense to "pay dirt." The traditionalists must be by-passed. In the real world of industry the man with the negative attitude who resists progress and change is usually passed-over or manuevered to a position of lesser responsibility. Why not promote the positive thinkers in the educational hierarchy?

ITV Production Facility

Is there a need for a centralized ITV production facility? Other than the two universities, the Utah institutions of higher education do not have the capability to produce ITV courses for credit. If Utah is to keep abreast with the revolution in education, then Mr. Bronson's admonition to utilize centrally prepared instructional materials should be followed. There was considerable opposition expressed against constructing additional facilities in Utah for centralized ITV. However, this was primarily voiced by those who have had little experience with the success of the new medium. A spark of hope lies in those expressing a positive attitude not only in the use of locally produced ITV but also in using well prepared ITV courses from any source in the nation. A nearly unanimous opinion surrounded the desire for more portable equipment to be used for classroom demonstration, magnification, micro-teaching, etc. The examples shown by the success of centralized ITV facilities at Hill Air Force Base and the guiding comments of Mr. Bronson about the future should indicate that the real payoff in the future for education is in cooperatively preparing high quality instruction.

Consideration of the Criteria

The following is a check of the findings of this study against the criteria established in Chapter I. The question "Is it feasible to establish a centralized instructional television production facility for higher education institutions in Utah?" is asked. The criteria against the facts and findings will result in an evaluative conclusion about each criterion. The combined results will determine the nature of the conclusion and recommendations which will result.

Criterion 1. Economic consideration. This criterion was limited by the nature of the investigation stated in Chapter I. The average cost for a centralized ITV production facility would compare favorably to the cost of an installation at one of the colleges in Utah. It would seem valid to accept the minimum figure appropriated to Snow College for this purpose in the amount of $50,000. If one facility was installed to serve those colleges not now equipped with production facilities, a savings could be realized. Computing the cost per enrolled students, this would amount to $1.34 per Utah college student for the $50,000 installation. (The total headcount enrollment for Utah universities and colleges for the fall semester of 1968 was 37,319 students.[89])

From the standpoint of investing in Utah's future use of educational technology, this investiment seems to be worth the cost.

Result of the check of Criterion 1: Acceptable.

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[89] Utah Coordinating Council of Higher Education, Financing Higher Education in Utah 1969-70 (Salt Lake City, Utah: 1969), p. A1-H1.

Criterion 2. Availability of qualified personnel. The existing shortage of qualified personnel throughout the United States dictates the answer that qualified personnel are not readily available; however, one centralized production facility in the state would minimize the need for as many qualified specialists at each institution. An existing shortage of trained personnel will not eliminate the need to continue with the use of ITV. This check shows that there may be two answers: one negative and one positive.

Result of the check of Criterion 2: (a) Not acceptable when considering the national shortage, and (b) acceptable when considering the savings of human resources by centralization.

Criterion 3. Space and physical plant. Facilities are not now available and equipped for the purpose of a centralized ITV production facility. It would require either building and equipping a new physical plant or identifying existing space which could be allocated and equipped for the purpose. The possibility exists that some of the existing television studios serving either higher education or secondary schools in the state could be used on an interim basis when studio time is available. Both the interim and long range solution to meet this criterion is not beyond resolution.

Results of the check of Criterion 3: Acceptable.

Criterion 4. Potential to provide the required service. Centralized ITV production facilities could provide the ITV production service to meet the needs of most, if not all, institutions. Centralized production facilities are presently fulfilling the needs of other states for institutions of higher education. The concept has the potential of providing the required service.

Results of the check of Criterion 4: Acceptable.

Criterion 5. Degree of acceptance by individual institution. The inquiry disclosed a strong opposition by most institutions to a centralized ITV production facility for higher education. Of the 7 Academic Vice Presidents or Deans interviewed, 5 were against and 2 were for a centralized ITV production facility. This predominantly negative opinion toward the concept would indicate an opposition which would be adverse to proceeding with this concept at the present time.

Results of the check of Criterion 5: Not acceptable.

The following is a summary of the checks of the criteria:

Criterion 1: Acceptable.

Criterion 2: (a) Not acceptable (National outlook).

(b) Acceptable (Local outlook and savings).

Criterion 3: Acceptable.

Criterion 4: Acceptable.

Criterion 5: Not acceptable.

The total results are three and one-half in favor and one and one-half against the concept of a centralized ITV production facility for higher education in Utah. These results would indicate an overall position of "undecided." However, there is strong support in favor of the concept.

CHAPTER V

SUMMARY AND CONCLUSIONS

I. SUMMARY

The problem of this thesis was to study the feasibility of a centralized instructional television production facility for institutions of higher education in the state of Utah. the Master Plan Study Committee M of the Utah Coordinating Council of Higher Education listed this as one of the questions currently facing the administrators of higher education in Utah. The author selected this problem as the subject for this thesis with a hope that the results of the research could be useful for higher education planning.

The procedure used included: (1) selection of five criteria upon which to evaluate the feasibility; (2) personal visits to the University of Utah, Utah State University, and Weber State College; (3) telephone interviews with the academic vice-presidents at the College of Eastern Utah, Southern Utah State College, Snow College, and Dixie College; (4) a limited investigation of the ITV activities at Brigham Young University and Hill Air Force Base to determine the use of ITV in these non-state institutions; (5) a survey of ITV in state institutions of higher education in other states in the United States; (6) extensive review of the research already done on the use of television as a tool in the teaching-learning process;

and (7) personal correspondence to leaders in the field of ITV in the nation.

The investigation of the use of ITV in state institutions of higher education disclosed that only the University of Utah and Utah State University have produced ITV courses for credit. The other colleges and junior colleges had little or no capability to produce ITV courses but had participated in the joint production of a state-sponsored ITV course in American History. All but one state institution had used this course at least once. This one institution was using a Geography course produced by the University of Utah. Therefore, all of the colleges and universities have been exposed to ITV courses for credit.

The author found, virtually, a dearth of research on the subject of centralized ITV production facilities. In contrast, however, extensive research about the effectiveness of television as a tool in the teaching-learning process indicates overwhelming evidence in support of the use of this medium. Teacher interest in the medium is the important factor in the success of the teacher and the amount of learning which takes place when teaching with television. After teaching with ITV, teachers who had previously had negative attitudes toward television tend to support the use of the television medium.

The survey of other states in the United States indicated 20 of the 35 states responding were considering the future use of centralized ITV production facilities for the joint use of higher eucational instutions in their state. The survey indicated that eight states presently have centralized ITV production facilities for higher education.

Overall, the evidence favors consideration of centralized production facilities. They may be _rapidly becoming an essential_.

The shortage of trained production and technical personnel for ITV is not only local but widespread throughout the nation. Seventy-eight per cent of the 32 states answering the survey question had experienced difficulty in recruiting qualified and trained production and technical personnel for ITV operations.

This investigation and its findings support the research which indicates a definite trend toward using ITV courses for credit in the teaching-learning process. There is a definite need for Utah colleges to begin using the television medium as a major part of the process of education in each institution. The Utah pilot history course was a beginning, however, it met with the opposition of the traditionalists who hold to the teacher's role in the classroom. This negative attitude permeates nearly all of the institutions of higher education as a profound force in opposition to the use of ITV courses for credit.

Besides the authorities in educational technology and research indicating the need for using the new television medium, the success of ITV within the boundaries of this state at the University of Utah, Utah State University, Brigham Young University, and Hill Air Force Base gives positive evidence of the efficiency of ITV.

The Utah Master Plan for Higher Education[88] says the purpose of the smaller colleges is to perform various roles in behalf of students of this state. One of the most important roles is to provide the opportunity for a student to obtain a higher education without traveling great distances or causing the larger institutions to be over crowded. The students attending the smaller colleges should have the same opportunity to be taught by the best teachers possible as those students at the large universities. ITV makes this possible. The author submits that there is a definite need for ITV in the institutions of higher education in Utah, and the findings of this investigation support this proposition.

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[88] _Master Plan_, _op_. _cit_., pp. 67-81.

The following is a summary of the results of the check against the criteria:

Criterion 1: Economic consideration. Acceptable.
Criterion 2: Availability of qualified personnel
  (a) Not acceptable (National outlook).
  (b) Acceptable (Local outlook and savings).
Criterion 3: Space and physical plant. Acceptable.
Criterion 4: Potential to provide the required service. Acceptable.
Criterion 5: Degree of acceptance by individual institutions. Not acceptable.

This check against the criteria established to determine the feasibility of a centralized ITV production facility for higher education in Utah resulted in a three and one-half items for and one and one-half items against. The main contributing factor against the concept was the opposition expressed by the administrators of academics at 5 of the 7 state institutions of higher education. This attitude would reflect a predisposition not to support a state centralized ITV operation.

II. CONCLUSIONS

This study has disclosed the fact that centralized ITV production facilities are being used in at least eight other states and twelve others are contemplating such a facility in the future. This fact alone supports the feasibility of the concept.

In Utah, the opposition to the idea tends to dictate caution or a delay of action by the state to construct a centralized ITV production facility. This opposition tends to come from those who are not involved with ITV. However, the research shows that teachers who become involved with ITV generally have a positive attitude. Because attitudes can and do change during relatively short periods of time, the author believes that good judgment would not long reject the feasibility of this question based primarily on the negative attitude of administrators or faculty.

The population explosion, knowledge explosion, and technology explosion are still expanding and no amount of negative attitude in institutions of higher education in Utah will have any effect on these vital moving forces. Also the technological revolution in education is moving forward. The multimedia approach to education has exceeded the realm of audiovisual aids to the instructor. The multimedia approach now embraces the new medium of television which is the most potent mass communication method yet devised. It can not only serve as the means of allowing the world to actually witness man's landing on the moon but it can serve to conquer an equally formidable challenge, i.e., the illiteracy of mankind.

Students progressing through the elementary and secondary grades with more extensive use of technology should be entitled to more challenging and progressive learning experiences when they go to college rather than reverting to traditional educational methods. An ITV production center could combine the human and physical resources for higher education in a manner which could make this goal a reality.

During the finalizing of this thesis, the author was advised by the office of Instructional Television Research under the U. S. Office of Education that the final report of the Presidents Commission on Instructional Technology was being prepared. It is to be submitted to President Nixon by the end of August, 1969. The contents of this report probably will be carefully scrutinized and used as a basis for future decisions about the destiny of ITV in America.

The author submits it is not only feasible to consider a centralized ITV production facility for higher education in Utah but also time for men of vision to take bold action to eliminate the outmoded and obsolete traditional methods of teaching in higher education. This is a challenge which faces the new State Board of Higher Education in Utah.

III. RECOMMENDATIONS FOR FURTHER STUDY

The Utah Master Plan for Higher Education and the reports of the supporting committees have touched on many problems eminating from the use of the new media in education. However there is one area which is emerging as a key concept for the successful application of technology to education. It should be studied and seriously considered by Utah's educational leaders. The idea is that of a centralized telecommunications agency to serve as the communication nerve center for education in the State of Utah.

Telecommunication is rapidly becoming the key to successful integration of computers, microwave and landline interconnections, information storage and retrieval systems, and the associated interface problems.[90] It seems inevitable that the state of Utah eventually will follow the lead of other states and establish such an agency to share in a future interconnecting network of the nation or the world. The subject of a future thesis may probe the question, "Is it feasible to establish a centralized telecommunications center to support education and other agencies in Utah?"

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[90] Donald C. Orlich and Charles O. Hilen (eds.), Telecommunications for Learning (Pullman, Washington: General Telephone Company of the Northwest and Washington State University, 1969), p. vii.

BIBLIOGRAPHY

BIBLIOGRAPHICAL ENTRIES

A. BOOKS

Diamond, Robert M. *Instructional Television.* New York: McGraw Hill, Inc., 1964.

Kochen Manfred. *Growth of Knowledge.* New York: John Wiley & Sons, Inc., 1968.

Koenig, Allen E., and Ruane B. Hill (eds.). *The Farther Vision.* Madison, Wisconson: The University of Wisconsin Press, 1967.

Orlich, Donald, and Charles O. Hilen (eds.). *Telecommunications for Learning.* Pullman, Washington: General Telephone Company of the Northwest and Washington State University, 1969.

The Report and Recommendations of the Carnegie Commission. *Public Television: A Program for Action.* New York: Harper and Row, Inc., 1967.

Schramm, Wilbur, and Godwin C. Chu. *Learning From Television, What the Research Says.* Washington: National Association of Educational Broadcasters, 1967.

B. PUBLICATIONS OF THE GOVERNMENT, AND LEARNED SOCIETIES

Coordinating Council of Higher Education. *Financing Higher Education in Utah 1969-1970.* Salt Lake City, Utah: Utah Coordinating Council of Higher Education, 1969.

________. *Master Plan Study Committee M Report: Supporting Services.* Salt Lake City, Utah: Utah Coordinating Council of Higher Education, 1968.

________. *Utah's Master Plan for Higher Education, A Working Document.* Salt Lake City, Utah: Utah Coordinating Council of Higher Education, 1968.

Dale, Edgar, and Gregory Trzebiatowski. *A Basic Reference Shelf on Audio-visual Instruction: A Series One Paper from ERIC at Stanford.* ERIC Clearinghouse on Educational Media and Technology. Stanford, California: Institute of Communication Research, 1968.

Institute of Communications Research. *Educational Television: The Next Ten Years.* Stanford University, California: Institute of Communication Research, 1968.

Jones, Gardner M. *A Procedural and Cost Analysis Study of Media in Instructional Systems Development.* United States Department of Health, Education, and Welfare, Grant No. OE-3-16-030. Washington: Government Printing Office, 1967.

Reid, J. Christopher, and Donald W. MacLennan. *Research in Instructional Television and Film.* United States Department of Health, Education, and Welfare, Grant No. GE-34041. Washington: Government Printing Office, 1967.

Rich, Owen S., Richard D. Poll, and Tess M. Williams. *The Utilization of Large-Screen TV to Overcome Shortage of Classroom Space and Teaching Personnel.* United States Department of Health, Education, and Welfare, Grant No. OE-7-54-0010-265. Washington: Government Printing Office, 1966.

Schramm, Wilbur, and Kenneth E. Oberholtzer *et al.* *The Context of Instructional Television--Summary Report of Research Findings.* United States Office of Education, Department of Health, Education, and Welfare, Grant No. 7-14-1380-083. Washington: Government Printing Office, 1964.

C. PERIODICALS

Bretz, Rudy. "Closed-Circuit ITV Logistics--Comparing Hagerstown, Anaheim & Santa Ana," *The NAEB Journal*, July-August, 1965, pp. 71-85.

Bronson, Vernon. "ETV Needs More Trained Personnel," *The NAEB Journal*, September-October, 1964, pp. 35-38.

______. "Professional Training of Personnel for Educational Television," *Audiovisual Instruction*, January, 1969, pp. 38-39.

Carpenter, C. R. "Closed-Circuit TV for Resident Teaching," *College and University Business*, XXIV (February, 1958), p. 17.

______, and R. N. Willis. "Barriers the Use of ETV and ITV," *National Association of Educational Broadcasters Journal*, XXIV (Nocember-December, 1965), p. 28.

Engar, Kieth M., and Dail Ogden. "Instructor-Directed Television," *The NAEB Journal*, March-April, 1966, pp. 38-43.

Hyland, Lawrence A. "The Future of Communications: A Commentary," *Signal*, XXII:11 (July, 1968), pp. 25-26.

Norwood, Frank W. "A Conference on Telecommunications Policy and Education: The Time for Action is Now," Audiovisual Instruction, February, 1969, pp. 79-80.

Pirsein, Robert W. "Advisory Council for Instructional Television and Radio," Illinois Journal of Education, LX:4 (April, 1969), p. 20.

"Portable Television Systems," Mediated Learning Systems Newsletter, I:2 (December, 1968), p. 1.

Schultz, Robert M. "Needed One Thousand Video Technicians," Illinois Journal of Education, LX:4 (April, 1969), p.5.

D. UNPUBLISHED MATERIALS

Christensen, Ted. "Closed Circuit Television, Evaluation of English 24 and Politcal Science 10." Logan, Utah: ITV Office, 1969. (Mimeographed.)

Grill, Jane Elizabeth. "Criteria for Appraising the Use of Television by State Universities." Unpublished Doctoral Thesis, Michigan State University, Ann Arbor, Michigan, 1959.

Nebraska Educational Television Council for Higher Education, Inc., Brochure. Lincoln, Nebraska, 1969.

Niven, Harold Franklin. "Instructional Television as a Medium of Teaching in Higher Education." Unpublished Ph. D. Dissertation, Ohio State University, Columbus, Ohio, 1958.

Simister, Wayne. "University of Utah Instructional Television History." Salt Lake City, Utah: CCTV Office, University of Utah, 1968. (Mimeographed.)

E. PERSONAL LETTER

Personal letter to the author, Vernon Bronson, Miami, Florida, June 15, 1969.

APPENDIX

APPENDIX A

PROPOSITIONS EXTRACTED FROM

LEARNING FROM TELEVISION: WHAT THE RESEARCH SAYS

by

Godwin C. Chu and Wilbur Schramm

I. Do Pupils Learn from Television?

1. Given favorable conditions, children learn efficiently from instructional television.

2. By and large, instructional television can more easily be used effectively for primary and secondary school students than for college students.

3. So far as we can tell from present evidence, television can be used efficiently to teach any subject matter where one-way communication will contribute to learning.

II. What Have We Learned About the Efficient Use of Instructional Television in a School System?

4. Television is most effective as a tool for learning when used in a suitable context of learning activities at the receiving end.

5. Television is more likely to be an efficient part of an educational system when it is applied to an educational problem of sufficient magnitude to call forth broad support.

6. Television is more likely to be an efficient tool of learning if it is planned and organized efficiently.

III. What Have We Learned About the Treatment, Situation, and Pupil Variables?

7. There is no evidence to suggest that visual magnification or large-size screen will improve learning from television in general.

8. There is insufficient evidence to suggest that color will improve learning from film or television.

9. Where learning of perceptual-motor skills is required, a subjective angle presentation on television will tend to be more effective than an objective angle presentation.

10. There is no clear evidence on the kind of variations in production techniques that significantly contribute to learning from instructional television. However, students will learn better when the visuals are presented in a continuous order and carefully planned both by the television team and the studio teacher.

11. Attention-gaining cues that are irrelevant to the subject matter will most probably have a negative effect on learning from instructional television.

12. There is no consistent evidence to suggest that either humor or animation significantly contributes to learning from instructional television.

13. Subtitles tend to improve learning from instructional television, particularly when the original program is not well organized.

14. There is insufficient evidence to suggest that dramatic presentation will result in more learning than will expository presentation in instructional television.

15. Inserting questions in a television program does not seem to improve learning, but giving the students a rest pause does.

16. Whether a television program is used to begin or to end a daily lesson by the classroom teacher makes no difference in learning.

17. Repeated showings of a television program will result in more learning, up to a point. But teacher-directed follow-up, where available, is more effective than a second showing of the same program.

18. If saving time is important, a television program can probably be shortened and still achieve the minimum requirement of teaching.

19. There is no clear evidence to suggest whether eye-contact

in television instruction will affect the amount of learning.

20. Problem-solving instruction on television is more effective than lecturing where the materials taught involve the solving of a problem.

21. The students are likely to acquire the same amount of learning from instructional television whether the materials are presented as a lecture, or in an interview, or in a panel discussion.

22. Where accurate perception of images is an important part of learning, wide viewing angle and long distance will interfere with learning from instructional television.

23. Adequate attention provided by the classroom teacher will, in most cases at least, remedy the adverse effect due to a wide viewing angle.

24. Noise will reduce the effectiveness of learning from film and television so far as part of the learning comes from the auditory medium.

25. Instructional television appears to be equally effective with small and large viewing groups.

26. Instructional television may or may not be more effective with homogeneously grouped students, depending on other factors in the learning situation.

27. Whether instructional television can teach students who view at home as effectively as students in the classroom seems to depend on other conditions.

28. At the college level, permissive attendance does not seem, by itself, to reduce the effectiveness of instructional television.

29. Students will learn more from instructional television under motivated conditions than under unmotivated conditions.

30. Learning from television by the students does not seem necessarily to be handicapped by the lack of prompt feedback to the instructor.

31. Showing, testing, revising an instructional television

program will help substitute for lack of live feedback to the teacher, and make for more learning by the students.

32. The lack of opportunity for students to raise questions and participate in free discussion would seem to reduce the effectiveness of learning from instructional television, particularly if the students are fairly advanced or the material is relatively complicated.

33. If a student being taught by instructional television can be given immediate knowledge of whether he has responded correctly, he will learn more.

34. Students taught by television tend to miss the personal teacher-student contact, but there is insufficient evidence to suggest that the lack of such contact will impair learning from instructional television.

35. Practice, whether by overt or covert response, will improve learning from instructional television if the practice is appropriate to the learning task, and if the practice does not constitute an interference.

36. Note-taking while viewing instructional television is likely to interfere with learning if time for it is not provided in the telecast.

IV. Attitudes Toward Instructional Television.

37. Teachers and pupils are more favorable toward the use of instructional television in elementary school than in secondary school and college.

38. Administrators are more likely to be favorable toward instructional television than are teachers.

39. Voluntary home students of televised college classes tend to be more favorable toward learning by television than are the students who take these same televised courses in the classroom.

40. At the college level, students tend to prefer small disscussion classes to television classes, television classes to large lecture classes.

41. There is evidence of a Hawthorne effect among students beginning to use instructional television, but no firm

evidence that attitudes toward the medium necessarily improve or worsen with time.

42. Favorable attitudes are distributed widely enough among different televised courses to cast doubt on the assumption that some academic subjects, per se, may be disliked as material for instructional television.

43. Liking instructional television is not always correlated with learning from it.

44. Among the factors that determine teachers' attitudes toward instructional television are (a) how they perceive the degree of threat to the classroom teacher; (b) how they estimate the likelihood of mechanized instruction replacing direct contact with students; (c) how they estimate the effectiveness of instructional television; (d) the difficulties they see in the way of using modern techniques; (e) how conservative they are, and whether they trust or distrust educational experimentation.

45. Among the factors that determine pupils' attitudes toward instructional television are (a) how much contact they think they will have with a teacher; (b) how they compare the relative abilities of the studio and classroom teachers; (c) whether they find instructional television boring or interesting; (d) the nature of the televised programs they have seen; (e) the conditions of viewing.

V. Learning from Television in Developing Regions.

46. There is no evidence to lead us to believe that children learn any less efficiently from television in developing countries than elsewhere.

47. Under suitable conditions, television has been shown to be capable of highly motivating learning in developing regions.

48. Illiterate people need to learn certain pictorial conventions. There is some evidence suggesting that these conventions are not hard to learn.

49. When media are introduced for upgrading the level of instruction, then it has proved very important to train teachers in their proper use and to keep in close touch with them.

50. Resistance to television and other media is likely to be no less in developing countries, but the size and urgency of the problems are likely to provide greater incentive for overcoming it.

51. Feedback from the classroom teacher to the studio teacher will be helpful to effective use of the media.

52. There is ample evidence that the new media, particularly television, are effective for in-service training of teachers for developing regions.

VI. Learning from Television: Learning from Other Media

53. Given favorable conditions, pupils can learn from any instructional media that are now available.

54. There appears to be little if any difference between learning from television and learning from film, if the two media are used the same way.

55. Television and radio have certain advantages over films in flexibility and deliverability.

56. Radio is less expensive than television; economy of scale usually governs cost comparisons of television and film.

57. More complete control of film by the classroom teacher gives it a potential advantage over television.

58. The use of visual images will improve learning of manual tasks, as well as other learning where visual images can facilitate the association process. Otherwise, visual images may cause distraction and interfere with learning.

59. There is some evidence to suggest that moving visual images will improve learning if the continuity of action is an essential part of the learning task.

60. Student response is effectively controlled by programmed methods, regardless of the instructional medium.

APPENDIX B

EXTRACTION FROM

CRITERIA FOR APPRAISING THE USE OF TELEVISION BY STATE UNIVERSITIES

by

Jane Elizabeth Grills*

For centuries educational institutions have shared with churches a virtual monopoly with regard to the responsibility for the interpretation and transmission of cultural values. This monopoly ended with the advent of mass communications.

While television is definitely the most effective medium of mass communication, to suggest that television alone should shoulder the burden of education for the scientific age is, or course, absurd. However, research has shown that television can be a fine instrument to convey ideas and an important tool for education. Higher education by university television could also serve a definite need in helping to equalize the opportunity for formal and informal learning beyond the usual twelve years in the public schools.

II. CRITERIA FOR EVALUATING A STATE UNIVERSITY TELEVISION ACTIVITY

By comparing and contrasting the philosophy of the state university with that of television in a state university and by including information which has been proved through research in the television medium, it has been possible to evolve a set of tenets of philosophy for a state university television activity which is in concurrence with the philosophy of the state university, itself. These tenets are, therefore, the criteria by which a state university television activity may be appraised.

Criterion 1. The state university television activity should be organized and operated as an integral part of the university's administrative and academic structure.

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*Jane Elizabeth Grills, Criteria For Appraising the Use of Television by State Universities (Michigan State University, Ph. D., 1959, Education, teacher training), University Microfilms, Inc. Ann Arbor, Michigan, pp. 165-166, 345-350, 394.

Criterion 2. A state university television activity is under a special obligation to serve the entire state; therefore, it should assist the institution in achieving the widest distribution possible for university information.

Criterion 3. The state university television activity should help equalize educational opportunity at all levels, offering citizens education regardless of their race, creed, age, sex, economic and social background, and the distance they live from an elementary or secondary school or any institution of higher learning.

Criterion 4. A state university television activity should keep "education" foremost in its programming.

Criterion 5. The state university television activity is legally and morally obligated to cooperate with the public school educational program, with public service organizations, and with programs of the local, state, and national governments; therefore, the activity should develop programs in conjunction with these agencies.

Criterion 6. Adult and continuing education activities should have an integral role in any state university television activity and should include formal and informal instruction, general service, and cultural programs.

Criterion 7. State university television activity should teach people to do their work effectively. It should provide: (a) in-service and post-professional education, and (b) training of personnel for commercial and educational television.

Criterion 8. The state university television activity has a formal, organizational relationship to the people; therefore:

(a) The activity should be "responsible" to its audience in all its actions; and
(b) The activity should perform a public relations-information function for all public education.

Criterion 9. A state university television operation should be active in three major areas of television research:

(a) technical,
(b) production-programming, and
(c) audience--values and effects as well as size and demographic characteristics.

Criterion 10. A state university television operation should be active in the preservation of television programming materials both on a short and a long term basis by film, kinescope recording, and video tape.

III. APPRAISAL OF TELEVISION ACTIVITIES

At some time the administration of each state university is faced with the decision as to what constitutes desirable involvment of its institution with television. As we have seen, there are a number of questions which should be answered and answers which should be weighed in making such a decision:

1. What can and cannot television do education-wise?
2. What are the size and type of audience one might expect for educational programming on television?
3. What are the educational needs of a specific state?
4. What are the philosophy and role of a particular state university?
5. What do prominent educators and educational broadcasters feel the philosophy and role of a state university television activity should be?

At this point a decision must be made regarding the university's ideal television activity--an educational station, a commercial station, a co-licensee with a commercial outlet, a major participant in a community or area educational outlet, a participant in a state-wide education or higher education network, or an operator of closed-circuit and/or recording facilities. After this decision is viewed and modified, when necessary, by existing and anticipated financial conditions, the first step toward the ideal can be made.

While the state university which is already engaged in some form of television activity is not concerned with each of these steps, its administration and staff of broadcasting specialists should be interested in reviewing and evaluating their television operation according to criteria based on the fundamental tenets of the philosophy and role of a state university and those of television in a state university. In order to facilitate such an evaluation it is necessary, whenever possible, to: (1) translate these basic tenets into a more tangible form, and (2) raise questions, creating a form of check list, which will provide the state university administrator or the educational broadcaster with a basis for analyzing the television activity of his institution and for comparing it with that of others.

There is, however, no way to provide comprehensive objective measurement of university television activity since some important factors are not measurable except by subjective judgment and others would require an intricate system of weighing to assess relative values to each institution. Even if such a system could be devised, *it could never be given more than logical validation because of its basis on opinion.* [Author's emphasis]

An additional difficulty in establishing an objective system of measurement is the tremendous difference in types of television services provided by the state universities. As the result of this dissimilarity, some factors which might be considered vital to the operation of a university station could well be of little or no importance to a university which programs "live" over commercial outlets.

However, by posing a series of questions based on each criterion, the author is undertaking to focus the reader's attention on the essential concepts contained in each criterion, to help point up the major considerations which should be included in any state university's philosophy, and to clarify and interpret the bases for the appraisal of a state university's television activity.

In conclusion, it is important that state university educators and educational broadcasters make a careful evaluation of their television activity in light of the philosphy of the institution and the objectives of the television operation, itself. With the relaxation of governmental regulations which had made the circulation of educational programming and the arrangement of networks most difficult and expensive, with a more equitable arrangement of frequency allocations due in the near future, with the possibility of federal aid, with continued foundation assistance and increased public acceptance, the future of state university television has never appeared better for the university television activity that knows why it is in existence, the direction in which it should move, and the paths it may take to its destination.

APPENDIX C

EXTRACTION FROM

THE NEBRASKA EDUCATIONAL TELEVISION COUNCIL FOR HIGHER EDUCATION, INC.*

The Nebraska Educational Television Council for Higher Education, Inc. is organized under the non-profit corporation laws of Nebraska. It is tax-exempt as a non-profit educational organization under Section 501 (c) (3) of the U. S. Internal Revenue Code. A nine-member Board of Directors, elected annually by the presidents of member colleges and universities, governs the corporation. Operations of NETCHE are conducted by a full-time professional staff which includes an executive director, assistant director, publications editor and a secretary. NETCHE activities are financed by a basic fee annually charged each member institution, and by a per-student-credit-hour enrollment fee for courses used. Addition support has been provided by the U. S. Office of Education of the Department of Health, Education and Welfare, and by private foundations.

Putting modern communications technology to work to meet the needs of higher education in Nebraska. This is the role of NETCHE, organized in 1965 to help fill a need that is still growing. Despite beginning operating costs, increasing enrollments and knowledge explosion, institutions of higher education everywhere are faced with the need to improve the quality of instruction and minimize utilization of classroom and laboratory space. For Nebraska schools, adopting techniques of mass communications has proved to be an economic and efficient means to this end.

In the vast array of technology available for the classroom television stands apart as probably the most powerful communications medium ever devised. Television alone offers the capability to combine imagination, ingenuity and innovation to stimulate learning.

Courses offered by NETCHE for academic credit include: American from Africa: A History; Developmental Reading; Introduction to Entomology; Introductory Geography; Introduction to Modern Concepts of Mathematics; Principles of Macro-Economics; Principles of Micro-Economics; and Understanding the Fine Arts. Each NETCHE credit course is accompanied by a guide providing students an outline of the content of each tele-lesson as well as suggested readings. Another guide for the campus instructor recommends follow-up activities, and suggests test questions and the television instruction.

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*The Nebraska Educational Television Council for Higher Education, Inc. (1969 Brochure), 1600 R. Street; Lincoln, Nebraska, 68508.

NETCHE has demonstrated that through the facilities of the Nebraska Education Television Network, it can offer specialized instruction not available on the local campuses; it can show rare materials which cannot be brought into the classroom; and it can provide extreme close-ups and clear views of demonstrations better than an instructor working with a small group of students in a classroom. Some campuses are developing closed-circuit television systems not only for playback of NETCHE programs, but also to facilitate their own television productions.

Although it has been in existence only three years, NETCHE already has made significant contributions to ETV growth and developments in Nebraska. As it continues its development, NETCHE adds a new dimension to Nebraska's role as an educational leader in the Great Plains.

APPENDIX D

QUESTIONNAIRE

INSTRUCTIONAL TELEVISION FOR HIGHER EDUCATION

1. How many state supported institutions of higher education are in your state? Universities ______ Colleges ______ Jr. Colleges ______ Trade or Technical ______ Business ______ Other ______.

2. Are complete Instructional Television (ITV) courses in varied subjects offered for credit? Yes ☐ No ☐

3. Are ITV courses for credit prepared by one institution also offered for credit in other institutions in your state? Yes ☐ No ☐

4. How many ITV courses are being offered for credit? (Circle one) a. None; b. 1 to 10; c. 11 to 20; d. 21 to 30; e. 31 to 40; f. more than 40.

5. What state institution produces the most ITV courses for credit in your state? ______________________ How many? ____________

6. What ITV production facilities are being used for institutions of higher education in your state? (Circle applicable answers)

   a. ETV broadcast station studios.
   b. Local institution ITV production studios. (Other than ETV studios)
   c. In-classroom ITV demonstrations, magnification, micro-teaching, etc.
   d. Joint use of lower education ITV production studios.
   e. Other (Explain) ______________________________________

7. Does your state supported institutions of higher education use centralized ITV production facilities serving more than one institution? Yes ☐ No ☐

8. Is your state considering the use of centralized ITV production facilities in the future? Yes ☐ No ☐

9. How often is television used by instructors for in-room demonstrations or to augment instructional materials for other than ITV credit courses? (Circle one) a. Continuously; b. Very often; c. Quite often; d. Not very often; e. Never

10. Do you have difficulty recruiting qualified and trained production and technical personnel for ITV operations? Yes ☐ No ☐

APPENDIX E

RESULTS OF ITV SURVEY OF STATES

Population = 50 (N=36) States Responding	No. of State Universities	No. of State Colleges	No. of Jr. Colleges	No. of Other State Institutions of Higher Educ.	Using ITV Courses for Credit?	Using ITV Courses from Other Institutions?	No. of ITV Courses Used By State Institutions?	Type Productions Studios Used.	Use Centralized ITV Production Facilities?	Considering Centralized ITVPF in Future?	How Often is ITV Used?	Difficulty in Recruiting ITV Personnel?	Institution Using Most ITV Courses. How Many?
1. Alabama	11	0	17	27	Yes	No	1-10	abcd	Yes	Yes	NVO	Yes	Univ. Alabama 1
2. Alaska	2	7	1	0	No	No	None	bcd	No	Yes	QO	Yes	Community College 2
3. Arizona	3	0	10	1	Yes	No	1-10	ac	No	No	NVO	Yes	Arizona State 4
4. Colorado	2	7	11	0	Yes	Yes	11-20	bce	No	Yes	NVO	Yes	Colorado State 7
5. Connecticut	1	4	5	5	Yes	NO	1-10	bc	No	Yes	QO	No	Central Conn. State 6
6. Delware	1	2	2	2	Yes	No	1-10	bce	No	Yes	QO	Yes	Univ. Delaware 4
7. Georgia	4	12	9	0	No	No	None	abcd	Yes	Yes	NVO	No	NA
8. Idaho	2	2	2	1	No	No	NA	a	No	Yes	QO	No	NA
9. Illinois	6	7	40	3	Yes	No	11-20	abcd	No	Yes	NVO	Yes	Univ. Ill. & Chic. TV. 100
10. Iowa	3	0	0	16	No	No	None	acd	No	Yes	NVO	No	NA
11. Kentucky	5	1	14	1	Yes	Yes	1-10	b	No	No	NVO	Yes	Moorehead State 1
12. Louisiana	3	7	3	48	NA	No	NA	b	No	Yes	NVO	No	NA
13. Maine	1	6	0	4	Yes	Yes	1-10	a	Yes	NA	NVO	Yes	Univ. Maine 5
14. Michigan	8	4	-	-	Yes	No	11-20	b	No	No	QO	Yes	Michigan State -
15. Minnesota	1	6	18	26	Yes	Yes	40+	abc	Yes	Yes	NVO	Yes	Univ. Minnesota 79
16. Mississippi	3	5	17	56	Yes	Yes	1-10	bce	No	Yes	VO	No	Univ. Southern Miss. 1
17. Missouri	1	5	-	-	Yes	No	40+	bc	No	No	C	Yes	Univ. Missouri 40+
18. Nebraska	2	4	-	2	No	No	1-10	ac	NETCHE	NETCHE	QO	Yes	NA (NETCHE 8)
19. Nevada	2	0	1	0	No	No	None	abc	NA	NA	NVO	Yes	NA
20. New Hampshire	1	2	2	5	Yes	Yes	1-10	a	Yes	No	NVO	Yes	Univ. New Hampshire 3
21. New Jersey	1	6	14	2	No	No	NA	NA	No	Yes	QO	NA	Rutgers
22. New Mexico	5	0	1	2	Yes	Yes	1-10	abc	Yes	Yes	NVO	Yes	E. New Mexico Univ. 2
23. New York	(Over 240)				Yes	Yes	1-10	ab	Yes	No	NVO	Yes	State Univ. of N.Y. 1-10
24. North Dakota	2	4	3	0	No	Yes	11-20	cd	No	Yes	NVO	Yes	Univ. North Dakota 5-6
25. Ohio	12	0	4	5	No	No	40+	abcde	No	No	NVO	Yes	Ohio State 15
26. Oklahoma	2	8	5	1	Yes	No	1-10	abc	No	Yes	QO	No	Oklahoma Univ.
27. Oregon	3	4	12	0	Yes	Yes	1-10	bc	No	No	VO	Yes	Oregon State 6
28. Pennsylvania	3	13	14	0	Yes	No	40+	bc	NA	Yes	QO	Yes	Penn. State 40+
29. Tennessee	9	0	5	26	Yes	No	11-20	b	No	No	NVO	Yes	Univ. Tennessee 11-20
30. Texas	19	3	42	5	Yes	Yes	1-10	abc	Yes	Yes	VO	Yes	Univ. Texas 8
31. Vermont	1	3	0	1	No	No	1-10	a	No	NA	NA	NA	Univ. Vermont
32. Washington	2	3	18	5	Yes	No	1-10	abce	No	Dicussed	VO	Yes	Seattle Community Col. 4
33. West Virginia	2	18	1	46	Yes	No	1-10	ace	No	Yes	NVO	Yes	Harvey Col. 3
34. Wisconsin	13	0	0	34	Yes	No	1-10	abc	No	Yes	NVO	Yes	Milwaukee Col. 3
35. Wyoming	1	0	7	0	Yes	No	NA	c	No	No	NVO	NA	Univ. Wyoming
36. Dist. Columbia	0	2	0	0	No	No	None	a	No	No	NA	NA	NA
(Utah)*	(2)	(2)	(3)	(2)	(Yes)	(Yes)	(11-20)	(bc)	(No)	(Yes)	(NVO)	(Yes)	(Univ. Utah 15)
Total													
Yes					24	11			8	20		25	
No					11	25			25	10		7	
χ^2 Analysis with Yates Correction													
Significance Level:					P=.05	P=.05			P=.01	P=.20		P=.01	

*For comparison only. Not included in totals or analysis.

A STUDY OF THE FEASIBILITY OF A CENTRALIZED INSTRUCTIONAL TELEVISION PRODUCTION FACILITY FOR HIGHER EDUCATION INSTITUTIONS IN UTAH

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Department of Communications

Master of Arts Degree, August 1969

ABSTRACT

The purpose of this study was to determine the feasibility of a centralized instructional television production facility for institutions of higher education in the state of Utah. The study surveyed seven Utah universities and colleges to determine the extent of ITV participation. Two institutions were producing ITV courses for credit. Five preferred ITV for in-class aid to the instructor. Another survey of thirty-five other states reflected sixty-six per cent of the states were considering centralized ITV production facilities. ITV research supports the use of the television medium as a tool in the teaching-learning process. A check against five criteria to weigh the feasibility of a central ITV production facility resulted in three and one-half items for and one and one-half items against. The main opposing item was the opposition of academic directors at five of the seven institutions. Due to rapid advancement of technology in education and the need for more efficient teaching tools, the author concluded it was feasible to consider a centralized instructional television facility for higher education in Utah.

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